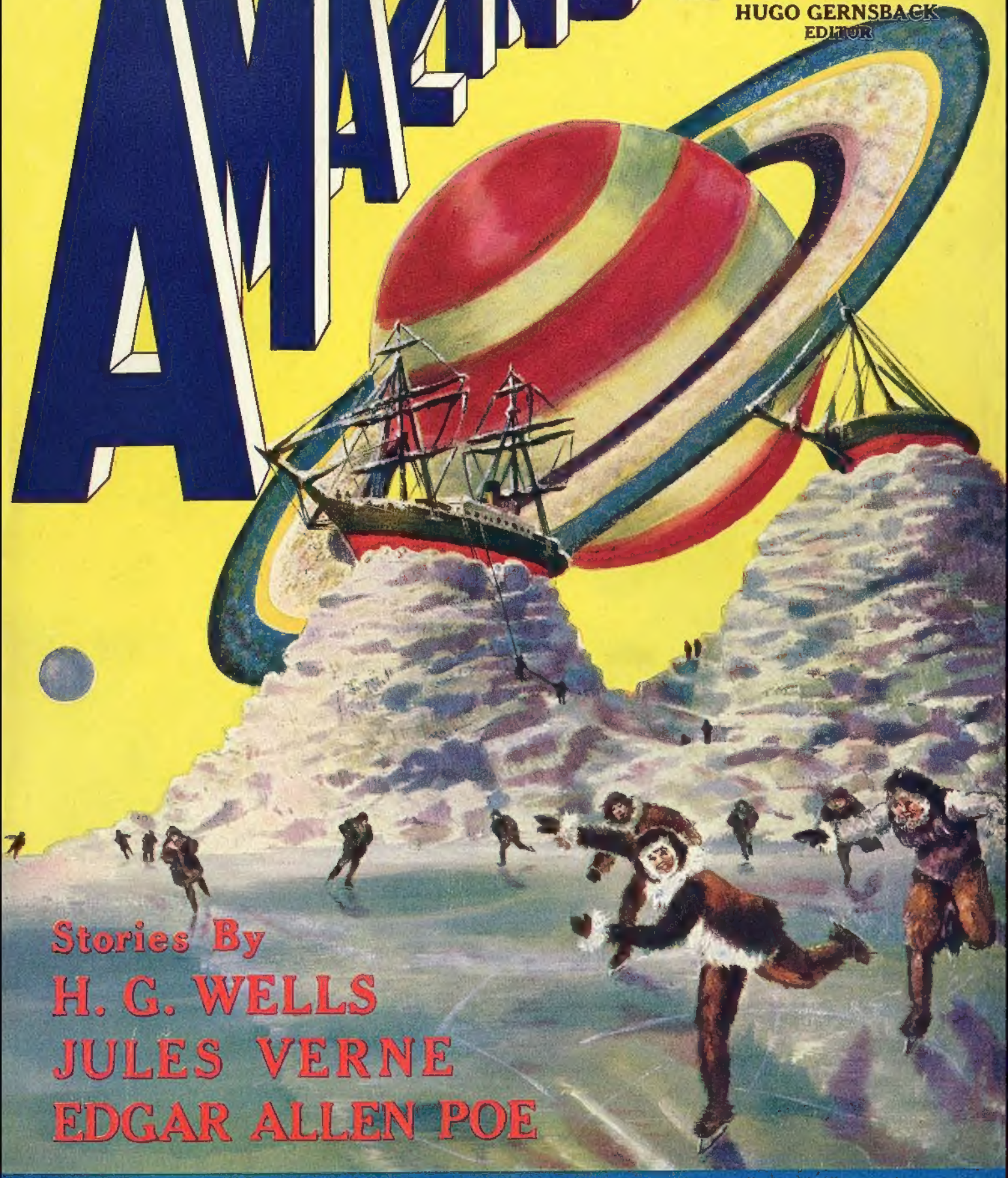
April, 1926

25 Cents

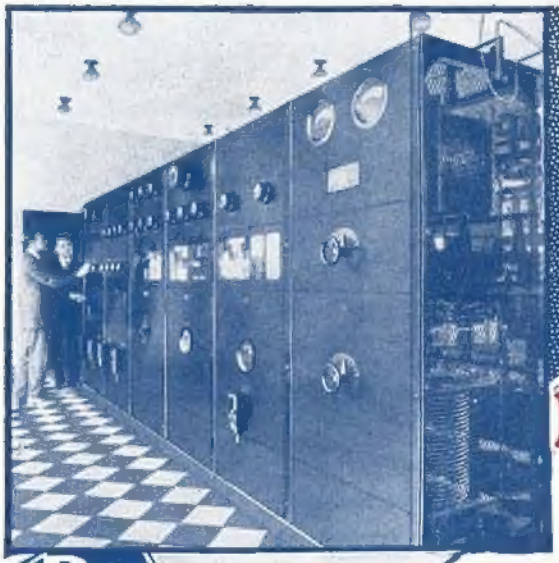
AMAZING STORIES

HUGO GERNSBACK
EDITOR



Stories By
H. G. WELLS
JULES VERNE
EDGAR ALLEN POE

EXPERIMENTER PUBLISHING COMPANY, NEW YORK, PUBLISHERS OF
RADIO NEWS - SCIENCE & INVENTION - RADIO REVIEW - AMAZING STORIES - RADIO INTERNACIONAL



$50 to $250 a week IN WORK THAT IS ALMOST ROMANCE

Be a Radio Expert

Get into the great new Big-Pay Industry—Radio. If you're earning a penny less than $50 a week, **clip coupon now.** Send for AMAZING FREE BOOK. Be a Radio Expert, and draw down big money for the easiest and most fascinating work in the world. Positions everywhere. Thoroughly-trained men are in big demand. Need for Radio Experts in every community. Short hours. BIG PAY. **Free book gives all the facts.** Astonishing opportunities—thousands of them! Every day N. R. I. trained men are taking good places in the Radio field. Free book tells all about their success. Send for it now!

LEARN QUICKLY AND EASILY *AT HOME*

Master Radio Engineers will show you how to qualify quickly and easily at home, for Radio's fine jobs. We **guarantee** to train you successfully. Lack of experience no drawback—common schooling all you need. Our tested, clear methods make it easy for you. Send coupon now for free proof.

Instruments Given with Course

All instruments shown here and many others given to students for practice work while learning. Receiving sets, from simplest kind to thousand mile receiver, an UNEQUALLED OFFER. Many other big features for limited time only.

Famous Training That "Pays for Itself"

Spare time earnings are easy in Radio. Increase your income almost from the start through practical knowledge we give you. This is the famous *practical* training that *pays its own way.*

PROOF

Operates WMAQ

"Accepted a position with Chicago Daily News—Station WMAQ. My income practically doubled, thanks to your fine course."
KEITH KIMBALL, Chicago.

Gets Big Job

"Just been made Sales Manager of this Radio concern—a big raise in pay. Regret I did not take course sooner."
R. E. JONES, Bay City.

Get this Amazing Book

Most amazing book on Radio ever written—full, interesting facts about this great field and how we prepare you and help you start. You can do what others have done. GET THIS BOOK.

Send Coupon

Send coupon today for special limited offer, including all instruments—you'll get full particulars by return mail.

National Radio Institute
Dept. EZ7, Washington, D. C.

Radio Needs Trained Men

LARGEST RADIO SCHOOL IN THE WORLD

ORIGINATORS OF RADIO HOME-STUDY TRAINING

You get all of these

MAIL THIS NOW

NATIONAL RADIO INSTITUTE
Dept. EZ7,
Washington, D. C.

Without obligating me in any way, send me your free book, "Rich Rewards in Radio," and all information about your practical, home-study Radio course.

Name ..... Age.....

Address .....

Town..... State.....

They Called Me a "Human Clam"

But I Changed Almost Overnight

AS I passed the President's office I could not help hearing my name. Instinctively I paused to listen. "That human clam," he was saying, "can't represent us. he's a hard worker, but he seems to have no ability to express himself. I had hoped to make him a branch manager this fall, but he seems to withdraw farther and farther into his shell all the time. I've given up hopes of making anything out of him."

So that was it! That was the reason why I had been passed over time and again when promotions were being made! That was why I was just a plodder—a truck horse for our firm, capable of doing a lot of heavy work, but of no use where brilliant performance was required. I was a failure unless I could do what seemed impossible—learn to use words forcefully, effectively and convincingly.

WHAT 15 MINUTES A DAY WILL SHOW YOU

- How to talk before your club or lodge
- How to address Board Meetings
- How to propose and respond to toasts
- How to make a political speech
- How to tell entertaining stories
- How to make after-dinner speeches
- How to converse interestingly
- How to write letters
- How to sell more goods
- How to train your memory
- How to enlarge your vocabulary
- How to develop self-confidence
- How to acquire a winning personality
- How to strengthen your will-power and ambition
- How to become a clear, accurate thinker
- How to develop your power of concentration
- How to be the master of any situation

In 15 Minutes a Day

And then suddenly I discovered a new, easy method which made me a powerful speaker almost overnight. I learned how to bend others to my will, how to dominate one man or an audience of thousands. Soon I had on salary increases, promotion, popularity, power. Today I always have a ready flow of speech at my command. I am able to rise to any occasion, to meet any emergency with just the right words. And I accomplished all this by developing the natural power of speech possessed by everyone, but cultivated by so few—by simply spending 15 minutes a day in the privacy of my own home, on this most fascinating subject.

* * *

There is no magic, no trick, no mystery about becoming a powerful and convincing talker. You, too, can conquer timidity, stage fright, self-consciousness and bashfulness, winning advancement in salary, popularity, social standing, and success. Today business demands for the big, important high-salaried jobs, men who can dominate others—men who can make others do as they wish. It is the power of forceful, convincing speech that causes one man to jump from obscurity to the presidency of a great corporation; another from a small, unimportant territory to a salesmanager's desk; another from the rank and file of political workers to a post of national importance; a timid, retiring, self-conscious man to change almost overnight into a popular and much applauded after-dinner speaker. Thousands have accomplished just such amazing things through this simple, easy, yet effective training.

Send For This Amazing Book

This new method of training is fully described in a very interesting and informative booklet which is now being sent to everyone mailing the coupon below. This book is called, *How to Work Wonders With Words.* In it you are shown how to conquer stage fright, self-consciousness, timidity, bashfulness and fear—those things that keep you silent while men of lesser ability get what they want by the sheer power of convincing speech. Not only men who have made millions but thousands have sent for this book—and are unstinting in their praise of it. You are told how to bring out and develop your priceless "hidden knack"—the natural gift within you—which will win for you advancement in position and salary, popularity, social standing, power and real success. You can obtain your copy absolutely free by sending the coupon.

Now Sent Free

NORTH AMERICAN INSTITUTE

3601 Michigan Ave., Dept. 9384, Chicago, Illinois

North American Institute,
3601 Michigan Ave., Dept. 9384
Chicago, Illinois.

Please send me FREE and without obligation my copy of your famous book, *How To Work Wonders With Words.*

Name .....

Address .....

City ..... State.....

Vol. 1. No. 1

April, 1926

JULES VERNE'S TOMBSTONE AT AMIENS PORTRAYING HIS IMMORTALITY

AMAZING STORIES

EDITORIAL & GENERAL OFFICES: 53 Park Place, New York City
Published by Experimenter Publishing Company, Inc.
(H. Gernsback, Pres.; S. Gernsback, Treas.; R. W. DeMott, Sec'y)
Publishers of SCIENCE & INVENTION, RADIO NEWS,
AMAZING STORIES, RADIO REVIEW, RADIO INTERNACIONAL

Contents For April

Off on a Comet—or Hector Servadac
By Jules Verne 4

The New Accelerator
By H. G. Wells 57

The Man From the Atom
By G. Peyton Wertenbaker 62

The Thing From—Outside
By George Allen England 67

The Man Who Saved the Earth
By Austin Hall 74

The Facts in the Case of Mr. Valdemar
By Edgar Allan Poe 92

OUR COVER

Depicts an interesting scene from "Off on a Comet" in this issue. Saturn and its rings in a close-up view, are silhouetted against the sky.

COPYRIGHT ACKNOWLEDGMENT

"Off on a Comet," by Jules Verne, copyright 1911, by Vincent Parke & Co., (Parke, Austin & Lipscomb Co.)

In Our Next Issue:

"A TRIP TO THE CENTER OF THE EARTH," by Jules Verne. This book, comparatively little known, is one of the most important of Verne's works. It holds your interest from beginning to end, and is by far the greatest work on this topic—namely the exploration of the earth's center—that has ever appeared.

"THE CRYSTAL EGG," by H. G. Wells. One of the most amazing tales ever written by Wells. A story you will long remember by this master of scientifiction.

"THE RUNAWAY SKYSCRAPER," by Murray Leinster. A story of the Fourth Dimension, in which the 50-story Metropolitan Life skyscraper vanishes into the Fourth Dimension. One of the most surprising tales we have ever read.

"WHISPERING ETHER," by Charles S. Wolfe, a radio story that holds your interest and is responsible for a good deal of gooseflesh and chills running up and down your spine.

"OFF ON A COMET," by Jules Verne (Conclusion).

A number of other short stories by well-known scientifiction writers.

HOW TO SUBSCRIBE FOR "AMAZING STORIES." Send your name, address and remittance to Experimenter Publishing Co., 53 Park Place, New York City. Checks and money orders should be made payable to Experimenter Publishing Co., Inc. Mention the name of the magazine you are ordering inasmuch as we also publish RADIO NEWS, SCIENCE & INVENTION, RADIO REVIEW and RADIO INTERNACIONAL. Subscriptions may be made in combination with the other publications just mentioned at special reduced club rates. Send postal for club rate card. Subscriptions start with the current issue unless otherwise ordered.
ON EXPIRATION of your subscription we enclose a renewal blank in our last number to you, and notify you by mail. Then, unless we receive your order and remittance for a renewal, delivery of the magazine is stopped.
CHANGE OF ADDRESS: Notify us as far in advance as possible, giving your old address as well as the new one to which future magazines are to go. It takes several weeks to make an address change in our records.

AMAZING STORIES is published on the 10th of each month. There are 13 numbers per year. Subscription price is $2.50 a year in U. S. and possessions. Canada and foreign countries $3.00 a year. U. S. coin as well as U. S. stamps accepted (no foreign coin or stamps). Single copies, 25 cents each. A sample copy will be sent gratis on request.
All communications and contributions to this journal should be addressed to Editor AMAZING STORIES, 53 Park Place, New York, N. Y. Unaccepted contributions cannot be returned unless full postage has been included. ALL accepted contributions are paid for on publication.

New England Advertising Representative
T. F. Magrane, Park Square Bldg., Boston, Mass.

Western Advertising Representatives
Finucan & McClure, 720 Cass St., Chicago, Ill.

AMAZING STORIES. Monthly. Application for second class matter at the Post Office at New York, N. Y., pending. Title Registered U. S. Patent Office. Copyright, 1926, by E. P. Co., Inc., New York. The text and illustrations of this Magazine are copyrighted and must not be reproduced without giving full credit to the publication. AMAZING STORIES is for sale at all newsstands in the United States and Canada. European Agents, S. J. Wise Et Cie, 40 Place Verte, Antwerp, Belgium. Printed in U. S. A.

Pacific Coast Advertising Representatives
A. J. Norris Hill Co., Hearst Bldg., San Francisco, Cal.

Kansas City Advertising Representatives
Davies & Dillon, 15 W. 10th St., Kansas City, Mo.

Volume 1

AMAZING STORIES

THE MAGAZINE OF SCIENTIFICTION

April, 1926
No. 1.

HUGO GERNSBACK, F.R.S., *Editor*
DR. T. O'CONOR SLOANE, M.A., Ph.D.; *Managing Editor*
Editorial and General Offices - - - 53 Park Place, New York, N. Y.

Extravagant Fiction Today - - - - - - - - Cold Fact Tomorrow

A NEW SORT OF MAGAZINE

By HUGO GERNSBACK, F.R.S.

ANOTHER fiction magazine!

At first thought it does seem impossible that there could be room for another fiction magazine in this country. The reader may well wonder, "Aren't there enough already, with the several hundreds now being published?" True. But this is not "another fiction magazine," AMAZING STORIES is a *new* kind of fiction magazine! It is entirely new—entirely different—something that has never been done before in this country. Therefore, AMAZING STORIES deserves your attention and interest.

There is the usual fiction magazine, the love story and the sex-appeal type of magazine, the adventure type, and so on, but a magazine of "Scientifiction" is a pioneer in its field in America.

By "scientifiction" I mean the Jules Verne, H. G. Wells, and Edgar Allan Poe type of story—a charming romance intermingled with scientific fact and prophetic vision. For many years stories of this nature were published in the sister magazines of AMAZING STORIES—"SCIENCE & INVENTION" and "RADIO NEWS."

But with the ever increasing demands on us for this sort of story, and more of it, there was only one thing to do—publish a magazine in which the scientific fiction type of story will hold forth exclusively. Toward that end we have laid elaborate plans, sparing neither time nor money.

Edgar Allan Poe may well be called the father of "scientifiction." It was he who really originated the romance, cleverly weaving into and around the story, a scientific thread. Jules Verne, with his amazing romances, also cleverly interwoven with a scientific thread, came next. A little later came H. G. Wells, whose scientifiction stories, like those of his forerunners, have become famous and immortal.

It must be remembered that we live in an entirely new world. Two hundred years ago, stories of this kind were not possible. Science, through its various branches of mechanics, electricity, astronomy, etc., enters so intimately into all our lives today, and we are so much immersed in this science, that we have become rather prone to take new inventions and discoveries for granted. Our entire mode of living has changed with the present progress, and it is little wonder, therefore, that many fantastic situations—impossible 100 years ago—are brought about today. It is in these situations that the new romancers find their great inspiration.

Not only do these amazing tales make tremendously interesting reading—they are also always instructive. They supply knowledge that we might not otherwise obtain—and they supply it in a very palatable form. For the best of these modern writers of scientifiction have the knack of imparting knowledge, and even inspiration, without once making us aware that we are being taught.

And not only that! Poe, Verne, Wells, Bellamy, and many others have proved themselves real prophets. Prophesies made in many of their most amazing stories are being realized—and have been realized. Take the fantastic submarine of Jules Verne's most famous story, "Twenty Thousand Leagues Under the Sea" for instance. He predicted the present day submarine almost down to the last bolt! New inventions pictured for us in the scientifiction of today are not at all impossible of realization tomorrow. Many great science stories destined to be of an historical interest are still to be written, and AMAZING STORIES magazine will be the medium through which such stories will come to you. Posterity will point to them as having blazed a new trail, not only in literature and fiction, but in progress as well.

We who are publishing AMAZING STORIES realize the great responsibility of this undertaking, and will spare no energy in presenting to you, each month, the very best of this sort of literature there is to offer.

Exclusive arrangements have already been made with the copyright holders of the entire voluminous works of ALL of Jules Verne's immortal stories. Many of these stories are not known to the general American public yet. For the first time they will be within easy reach of every reader through AMAZING STORIES. A number of German, French and English stories of this kind by the best writers in their respective countries, have already been contracted for and we hope very shortly to be able to enlarge the magazine and in that way present always more material to our readers.

How good this magazine will be in the future is up to you. Read AMAZING STORIES—get your friends to read it and then write us what you think of it. We will welcome constructive criticism—for only in this way will we know how to satisfy you.

Off On a Comet

by Jules Verne

Scarcely a yard of ground was left unexplored. The horses clearing every obstacle, as if they were like Pegasus, furnished with wings.

Introduction to the Story

AMONG so many effective and artistic tales of our author, it is difficult to give a preference to one over all the rest. Yet, certainly, even amid Verne's most remarkable works, his "Off on a Comet" must be given high rank. Perhaps this story will be remembered when some of his greatest efforts have been obliterated by centuries of time. At least, of the many books since written upon the same theme as Verne's, no one has yet equaled or even approached it.

In one way "Off on a Comet" shows a marked contrast to Verne's earlier books. Not only does it invade a region of remotest space, but the author here abandons his usual scrupulously scientific attitude and gives his fancy freer rein. In order that he may escort us through the depths of immeasurable space, to show us what astronomy really knows of conditions there and upon the other planets, Verne asks us to accept a situation which is in a sense self-contradictory. The earth and a comet are brought twice into collision without mankind in general, or even our astronomers, becoming conscious of the fact. Moreover several people from widely scattered places are carried off by the comet and returned uninjured. Yet further, the comet snatches and carries away with it for the convenience of its travelers, both air and water. Little, useful tracts of earth are picked up and, as it were, turned

over and clapped down right side up again upon the comet's surface. Even ships pass uninjured through this remarkable somersault. These events all belong to the realm of fairyland.

If the situation were reproduced in actuality, if ever a comet should come into collision with the earth, we can conceive two scientifically possible results. If the comet were of such attenuation, such almost infinitesimal mass as some of these celestial wanderers seem to be, we can imagine our earth self-protective and possibly unharmed. If, on the other hand, the comet had even a hundredth part of the size and solidity and weight which Verne confers upon his monster so as to give his travelers a home—in that case the collision would be unspeakably disastrous—especially to the unlucky individuals who occupied the exact point of contact.

But once granted the initial and the closing extravagance, the departure and return of his characters, the alpha and omega of his tale, how closely the author clings to facts between! How closely he follows, and imparts to his readers, the scientific probabilities of the universe beyond our earth, the actual knowledge so hard won by our astronomers! Other authors who, since Verne, have told of trips through the planetary and stellar universe have given free rein to fancy, to dreams of what might be found. Verne has endeavored to impart only what is known to exist.

In the same year with "Off on a Comet," 1877, was published also the tale variously named and translated as "The Black Indies," "The Underground City," and "The Child of the Cavern." This story, like "Round the World in Eighty Days" was first issued in "feuilleton" by the noted Paris newspaper "Le Temps." Its success did not equal that of its predecessor in this style. Some critics indeed have pointed to this work as marking the beginning of a decline in the author's power of awaking interest. Many of his best works were, however, still to follow.

Off On a Comet

Or Hector Servadac

By JULES VERNE

Book 1

CHAPTER I

A CHALLENGE

NOTHING, sir, can induce me to surrender my claim."

"I am sorry, count, but in such a matter your views cannot modify mine."

"But allow me to point out that my seniority unquestionably gives me a prior right."

"Mere seniority, I assert, in an affair of this kind, cannot possibly entitle you to any prior claim whatever."

"Then, captain, no alternative is left but for me to compel you to yield at the sword's point."

"As you please, count; but neither sword nor pistol can force me to forego my pretensions. Here is my card."

"And mine."

This rapid altercation was thus brought to an end by the formal interchange of the names of the disputants. On one of the cards was inscribed:

Captain Hector Servadac,
Staff Officer, Mostaganem.

On the other was the title:

Count Wassili Timascheff,
On board the Schooner "Dobryna."

It did not take long to arrange that seconds should be appointed, who would meet in Mostaganem at two o'clock that day; and the captain and the count were on the point of parting from each other, with a salute of punctilious courtesy, when Timascheff, as if struck by a sudden thought, said abruptly: "Perhaps it would be better, captain, not to allow the real cause of this to transpire."

"Far better," replied Servadac; "it is undesirable in every way for any names to be mentioned."

"In that case, however," continued the count, "it will be necessary to assign an ostensible pretext of some kind. Shall we allege a musical dispute—a contention in which I feel bound to defend Wagner, while you are the zealous champion of Rossini?"

"I am quite content," answered Servadac, with a smile; and with another low bow they parted.

The scene as here depicted, took place upon the extremity of a little cape on the Algerian coast, between Mostaganem and Tenes, about two miles from the mouth of the Shelif. The headland rose more than sixty feet above the sea-level, and the azure waters of the Mediterranean, as they softly kissed the strand, were tinged with the reddish hue of the ferriferous rocks that formed its base. It was the 31st of December. The noontide sun, which usually illuminated the various projections of the coast with a dazzling brightness, was hidden by a dense mass of cloud, and the fog, which for some unaccountable cause, had hung for the last two months over nearly every region in the world, causing serious interruption to traffic between continent and continent, spread its dreary veil across land and sea.

After taking leave of the staff-officer, Count Wassili Timascheff wended his way down to a small creek, and took his seat in the stern of a light four-oar that had been awaiting his return; this was immediately pushed off from shore, and was soon alongside a pleasure-yacht, that was lying to, not many cable lengths away.

At a sign from Servadac, an orderly, who had been standing at a respectful distance, led forward a magnificent Arabian horse; the captain vaulted into the saddle, and followed by his attendant, well mounted as himself, started off towards Mostaganem. It was half-past twelve when the two riders crossed the bridge that had been recently erected over the Shelif, and a quarter of an hour later their

steeds, flecked with foam, dashed through the Mascara Gate, which was one of five entrances opened in the embattled wall that encircled the town.

At that date, Mostaganem contained about fifteen thousand inhabitants, three thousand of whom were French. Besides being one of the principal district towns of the province of Oran, it was also a military station. Mostaganem rejoiced in a well-sheltered harbor, which enabled it to utilize all the rich products of the Mina and the Lower Shelif. It was the existence of so good a harbor amidst the exposed cliffs of this coast that had induced the owner of the *Dobryna* to winter in these parts, and for two months the Russian standard had been seen floating from her yard, whilst on her mast-head was hoisted the pennant of the French Yacht Club, with the distinctive letters M. C. W. T., the initials of Count Timascheff.

Having entered the town, Captain Servadac made his way towards Matmore, the military quarter, and was not long in finding two friends on whom he might rely—a major of the 2nd Fusileers, and a captain of the 8th Artillery. The two officers listened gravely enough to Servadac's request that they would act as his seconds in an affair of honor, but could not resist a smile on hearing that the dispute between him and the count had originated in a musical discussion. Surely, they suggested, the matter might be easily arranged; a few slight concessions on either side, and all might be amicably adjusted. But no representations on their part were of any avail. Hector Servadac was inflexible.

"No concession is possible," he replied, resolutely. "Rossini has been deeply injured, and I cannot suffer the injury to be unavenged. Wagner is a fool. I shall keep my word. I am quite firm."

"Be it so, then," replied one of the officers; "and after all, you know, a sword-cut need not be a very serious affair."

"Certainly not," rejoined Servadac; "and especially in my case, when I have not the slightest intention of being wounded at all."

Incredulous as they naturally were as to the assigned cause of the quarrel, Servadac's friends had no alternative but to accept his explanation, and without further parley they started for the staff office, where, at two o'clock precisely, they were to meet the seconds of Count Timascheff. Two hours later they had returned. All the preliminaries had been arranged; the count, who like many Russians abroad was an aide-de-camp of the Czar, had of course proposed swords as the most appropriate weapons, and the duel was to take place on the following morning, the first of January, at nine o'clock, upon the cliff at a spot about a mile and a half from the mouth of the Shelif. With the assurance that they would not fail to keep their appointment with military punctuality, the two officers cordially wrung their friend's hand and retired to the Zulma Café for a game at piquet. Captain Servadac at once retraced his steps and left the town.

For the last fortnight Servadac had not been occupying his proper lodgings in the military quarters; having been appointed to make a local levy, he had been living in a gourbi, or native hut, on the Mostaganem coast, between four and five miles from the Shelif. His orderly was his sole companion, and by any other man than the captain the enforced exile would have been esteemed little short of a severe penance.

On his way to the gourbi, his mental occupation was a very laborious effort to put together what he was pleased to call a rondo, upon a model of versification all but obsolete. This rondo, it is unnecessary to conceal, was to be an ode addressed to a young widow by whom he had been captivated, and whom he was anxious to marry, and the tenor of his muse was intended to prove that when once a man has found an object in all respects worthy of his affections he should love her "in all simplicity." Whether the aphorism was universally true was not very material to the gallant captain, whose sole ambition at present was to construct a roundelay of which this should be the prevailing sentiment. He indulged the fancy that he might succeed in producing a composition which would have a fine effect here in Algeria, where poetry in that form was all but unknown.

"I know well enough," he said repeatedly to himself, "what I want to say. I want to tell her that I love her sincerely, and wish to marry her; but, confound it! the words won't rhyme. Plague on it! Does nothing rhyme with 'simplicity'? Ah! I have it now:

'Lovers should, whoe'er they be,
Love in all simplicity.'

But what next? how am I to go on? I say, Ben Zoof," he called aloud to his orderly, who was trotting silently close in his rear, "did you ever compose any poetry?"

"No, captain," answered the man promptly: "I have never made any verses, but I have seen them made fast enough at a booth during the fête of Montmartre."

"Can you remember them?"

"Remember them! to be sure I can. This is the way they began:

'Come in! come in! you'll not repent
The entrance money you have spent;
The wondrous mirror in this place.
Reveals your future sweetheart's face.'"

"Bosh!" cried Servadac in disgust; "your verses are detestable trash."

"As good as any others, captain, squeaked through a reed pipe."

"Hold your tongue, man," said Servadac peremptorily; "I have made another couplet.

'Lovers should, whoe'er they be,
Love in all simplicity;
Lover, loving honestly,
Offer I myself to thee."

Beyond this, however, the captain's poetical genius was impotent to carry him; his further efforts were unavailing, and when at six o'clock he reached the gourbi, the four lines still remained the limit of his composition.

CHAPTER II

CAPTAIN SERVADAC AND HIS ORDERLY

AT the time of which I write, there might be seen in the registers of the Minister of War the following entry:

SERVADAC (*Hector*), born at St. Trélody in the district of Lesparre, department of the Gironde, July 19th, 18—.

Property: 1200 francs in rentes.

Length of service: Fourteen years, three months, and five days.

Service: Two years at school at St. Cyr; two years at L'École d'Application; two years in the 8th Regiment of the Line; two years in the 3rd Light Cavalry; seven years in Algeria.

Campaigns: Soudan and Japan.

Rank: Captain on the staff at Mostaganem.

Decorations: Chevalier of the Legion of Honor, March 13th, 18—.

Hector Servadac was thirty years of age, an orphan without lineage and almost without means. Thirsting for glory rather than for gold, slightly scatter-brained, but warm-hearted, generous, and brave, he was eminently fitted to be the protégé of the god of battles.

For the first year and a half of his existence he had been the foster-child of the sturdy wife of a vine-dresser of Médoc—a lineal descendant of the heroes of ancient prowess; in a word, he was one of those individuals whom nature seems to have predestined for remarkable things, and around whose cradle have hovered the fairy god-mothers of adventure and good luck.

In appearance Hector Servadac was quite the type of an officer; he was rather more than five feet six inches high, slim and graceful, with dark curling hair and mustaches, well-formed hands and feet, and a clear blue eye. He seemed born to please without being conscious of the power he possessed. It must be owned, and no one was more ready to confess it than himself, that his literary attainments were by no means of a high order. "We don't spin tops" is a favorite saying amongst artillery officers, indicating that they do not shirk their duty for frivolous pursuits; but it must be confessed that Servadac, being naturally idle, was very much given to "spinning tops." His good abilities, however, and his ready intelligence had carried him successfully through the curriculum of his early career. He was a good draughtsman, an excellent rider—having thoroughly mastered the successor to the famous "Uncle Tom" at the riding-school of St. Cyr—and in the records of his military service his name had several times been included in the order of the day.

The following episode may suffice, in a certain degree, to illustrate his character. Once, in action, he was leading a detachment of infantry through an intrenchment. They came to a place where the side-work of the trench had been so riddled by shell that a portion of it had actually fallen in, leaving an aperture quite unsheltered from the grape-shot that was pouring in thick and fast. The men hesitated. In an instant Servadac mounted the side-work, laid himself down in the gap, and thus filling up the breach by his own body, shouted, "March on!"

And through a storm of shot, not one of which touched the prostrate officer, the troop passed in safety.

Since leaving the military college, Servadac, with the exception of his two campaigns in the Soudan and Japan, had been always stationed in Algeria. He had now a staff appointment at Mostaganem, and had lately been entrusted with some topographical work on the coast between Tenes and the Shelif. It was a matter of little consequence to him that the gourbi, in which of necessity he was quartered, was uncomfortable and ill-contrived; he loved the open air, and the independence of his life suited him well. Sometimes he would wander on foot upon the sandy shore, and sometimes he would enjoy a ride along the summit of the cliff; altogether being in no hurry at all to bring his task to an end. His occupation, moreover, was not so engrossing but that he could find leisure for taking a short railway journey once or twice a week; so that he was ever and again putting in an appearance at the general's receptions at Oran, and at the fêtes given by the governor at Algiers.

It was on one of these occasions that he had first met Madame de L——, the lady to whom he was desirous of dedicating the rondo, the first four lines of which had just seen the light. She was a colonel's widow, young and handsome, very reserved, not to say haughty in her manner, and either indifferent or impervious to the admiration which she inspired. Captain Servadac had not yet ventured to declare his attachment; of rivals he was well aware he had not a few, and amongst these not the least formidable was the Russian Count Timasheff. And although the young widow was all unconscious of the share she had in the matter, it was she, and she alone, who was the cause of the challenge just given and accepted by her two ardent admirers.

During his residence in the gourbi, Hector Servadac's sole companion was his orderly, Ben Zoof. Ben Zoof was devoted, body and soul, to his superior officer. His own personal ambition was so entirely absorbed in his master's welfare, that it is certain no offer of promotion—even had it been that of aide-de-camp to the Governor-General of Algiers—would have induced him to quit that master's service. His name might seem to imply that he was a native of Algeria; but such was by no means the case. His true name was Laurent; he was a native of Montmartre in Paris, and how or why he had obtained his patronymic was one of those anomalies which the most sagacious of etymologists would find it hard to explain.

Born on the hill of Montmartre, between the Solferino tower and the mill of La Galette, Ben Zoof had ever possessed the most unreserved admiration for his birthplace; and to his eyes the heights and district of Montmartre represented an epitome of all the wonders of the world. In all his travels, and these had been not a few, he had never beheld scenery which could compete with that of his native home. No cathedral—not even Burgos itself—could vie with the church at Montmartre. Its race-course could well hold its own against that at Pentélique; its reservoir would throw the Mediterranean into the shade; its forests had flourished long before the invasion of the Celts; and its very mill produced no ordinary flour, but provided material for cakes of world-wide renown. To crown all, Montmartre boasted a mountain—a veritable mountain; envious tongues indeed might pronounce it little more than a hill; but Ben Zoof would have allowed himself to be hewn in pieces rather than admit that it was anything less than fifteen thousand feet in height.

Ben Zoof's most ambitious desire was to induce the captain to go with him and end his days in his much-loved home, and so incessantly were Serva-

dac's ears besieged with descriptions of the unparalleled beauties and advantages of this eighteenth arrondissement of Paris, that he could scarcely hear the name of Montmartre without a conscious thrill of aversion. Ben Zoof, however, did not despair of ultimately converting the captain, and meanwhile had resolved never to leave him. When a private in the 8th Cavalry, he had been on the point of quitting the army at twenty-eight years of age, but unexpectedly he had been appointed orderly to Captain Servadac. Side by side they fought in two campaigns. Servadac had saved Ben Zoof's life in Japan; Ben Zoof had rendered his master a like service in the Soudan. The bond of union thus effected could never be severed; and although Ben Zoof's achievements had fairly earned him the right of retirement, he firmly declined all honors or any pension that might part him from his superior officer. Two stout arms, an iron constitution, a powerful frame, and an indomitable courage were all loyally devoted to his master's service, and fairly entitled him to his *soi-disant* designation or "The Rampart of Montmartre." Unlike his master, he made no pretension to any gift of poetic power, but his inexhaustible memory made him a living encyclopædia; and for his stock of anecdotes and troopers's tales he was matchless.

Thoroughly appreciating his servant's good qualities, Captain Servadac endured with imperturbable good humor those idiosyncrasies, which in a less faithful follower would have been intolerable, and from time to time he would drop a word of sympathy that served to deepen his subordinate's devotion.

On one occasion, when Ben Zoof had mounted his hobby-horse, and was indulging in high-flown praises about his beloved eighteenth arrondissement, the captain had remarked gravely, "Do you know, Ben Zoof, that Montmartre only requires a matter of some thirteen thousand feet to make it as high as Mont Blanc?"

Ben Zoof's eyes glistened with delight; and from that moment Hector Servadac and Montmartre held equal places in his affection.

CHPTER III

INTERRUPTED EFFUSIONS

COMPOSED of mud and loose stones, and covered with a thatch of turf and straw, known to the natives by the name of "driss," the gourbi, though a grade better than the tents of the nomad Arabs, was yet far inferior to any habitation built of brick or stone. It adjoined an old stone hostelry, previously occupied by a detachment of engineers, and which now afforded shelter for Ben Zoof and the two horses. It still contained a considerable number of tools, such as mattocks, shovels, and pick-axes.

Uncomfortable as was their temporary abode Servadac and his attendant made no complaints; neither of them was dainty in the matter either of board or lodging. After dinner, leaving his orderly to stow away the remains of the repast in what he was pleased to term the "cupboard of his stomach," Captain Servadac turned out into the open air to smoke his pipe upon the edge of the cliff. The shades of night were drawing on. An hour previously, veiled in heavy clouds, the sun had sunk below the horizon that bounded the plain beyond the Shelif.

The sky presented a most singular appearance. Towards the north, although the darkness rendered it impossible to see beyond a quarter of a mile, the upper strata of the atmosphere were suffused with a rosy glare. No well-defined fringe of light, nor arch of luminous rays, betokened a display of aurora borealis, even had such a phenomenon been possible in these latitudes; and the most experienced meteorologist would have been puzzled to explain the cause of this striking illumination on this 31st of December, the last evening of the passing year.

But Captain Servadac was no meteorologist, and it is to be doubted whether, since leaving school, he had ever opened his "Course of Cosmography." Besides, he had other thoughts to occupy his mind. The prospects of the morrow offered serious matter for consideration. The captain was actuated by no personal animosity against the count; though rivals, the two men regarded each other with sincere respect; they had simply reached a crisis in which one of them was *de trop;* which of them, fate must decide.

At eight o'clock, Captain Servadac re-entered the gourbi, the single apartment of which contained his bed, a small writing-table, and some trunks that served instead of cupboards. The orderly performed his culinary operations in the adjoining building, which he also used as a bed-room, and where, extended on what he called his "good oak mattress," he would sleep soundly as a doormouse for twelve hours at a stretch. Ben Zoof had not yet received his orders to retire, and ensconcing himself in a corner of the gourbi, he endeavored to doze—a task which the unusual agitation of his master rendered somewhat difficult. Captain Servadac was evidently in no hurry to betake himself to rest, but seating himself at his table, with a pair of compasses and a sheet of drawing-paper, he began to draw, with red and blue crayons, a variety of colored lines, which could hardly be supposed to have much connection with a topographical survey. In truth, his character of staff-officer was now entirely absorbed in that of Gascon poet. Whether he imagined that the compasses would bestow upon his verses the measure of a mathematical accuracy, or whether he fancied that the parti-colored lines would lend variety to his rhythm, it is impossible to determine; be that as it may, he was devoting all his energies to the compilation of his rondo, and supremely difficult he found the task.

"Hang it!" he ejaculated, "whatever induced me to choose this meter? It is as hard to find rhymes as to rally fugitives in a battle. But, by all the powers! it shan't be said that a French officer cannot cope with a piece of poetry. One battalion has fought—now for the rest!"

Perseverance had its reward. Presently two lines, one red, the other blue, appeared upon the paper, and the captain murmured:

"Words, mere words, cannot avail,
Telling true heart's tender tale."

"What on earth ails my master?" muttered Ben Zoof; "for the last hour he has been as fidgety as a bird returning after its winter migration."

Servadac suddenly started from his seat, and as

he paced the room with all the frenzy of poetic inspiration, read out:

"Empty words cannot convey
All a lover's heart would say."

"Well, to be sure, he is at his everlasting verses again!" said Ben Zoof to himself, as he roused himself in his corner. "Impossible to sleep in such a noise;" and he gave vent to a loud groan.

"How now, Ben Zoof?" said the captain sharply. "What ails you?"

"Nothing, sir, only the nightmare."

"Curse the fellow, he has quite interrupted me!" ejaculated the captain. "Ben Zoof!" he called aloud.

"Here, sir!" was the prompt reply; and in an instant the orderly was upon his feet, standing in a military attitude, one hand to his forehead, the other closely pressed to his trouser-seam.

"Stay where you are! don't move an inch!" shouted Servadac; "I have just thought of the end of my rondo."

And in a voice of inspiration, accompanying his words with dramatic gestures, Servadac began to declaim:

"Listen, lady, to my vows—
O, consent to be my spouse;
Constant ever I will be,
Constant . . . ."

No closing lines were uttered. All at once, with unutterable violence, the captain and his orderly were dashed, face downwards, to the ground.

CHAPTER IV

A CONVULSION OF NATURE

WHENCE came it that at that very moment the horizon underwent so strange and sudden a modification, that the eye of the most praticed mariner could not distinguish between sea and sky?

Whence came it that the billows raged and rose to a height hitherto unregistered in the records of science?

Whence came it that the elements united in one deafening crash; that the earth groaned as though the whole framework of the globe were ruptured; that the waters roared from their innermost depths; that the air shrieked with all the fury of a cyclone?

Whence came it that a radiance, intenser than the effulgence of the Northern Lights, overspread the firmament, and momentarily dimmed the splendor of the brightest stars?

Whence came it that the Mediterranean, one instant emptied of its waters, was the next flooded with a foaming surge?

Whence came it that in the space of a few seconds the moon's disc reached a magnitude as though it were but a tenth part of its ordinary distance from the earth?

Whence came it that a new blazing spheroid, hitherto unknown to astronomy, now appeared suddenly in the firmament, though it were but to lose itself immediately behind masses of accumulated cloud?

What phenomenon was this that had produced a cataclysm so tremendous in effect upon earth, sky, and sea?

Was it possible that a single human being could have survived the convulsion? and if so, could he explain its mystery?

CHAPTER V

A MYSTERIOUS SEA

VIOLENT as the commotion had been, that portion of the Algerian coast which is bounded on the north by the Mediterranean, and on the west by the right bank of the Shelif, appeared to have suffered little change. It is true that indentations were perceptible in the fertile plain, and the surface of the sea was ruffled with an agitation that was quite unusual; but the rugged outline of the cliff was the same as heretofore, and the aspect of the entire scene appeared unaltered. The stone hostelry, with the exception of some deep clefts in its walls, had sustained little injury; but the gourbi, like a house of cards destroyed by an infant's breath, had completely subsided, and its two inmates lay motionless, buried under the sunken thatch.

It was two hours after the catastrophe that Captain Servadac regained consciousness; he had some trouble to collect his thoughts, and the first sounds that escaped his lips were the concluding words of the rondo which had been so ruthlessly interrupted;

"Constant ever I will be,
Constant . . . ."

His next thought was to wonder what had happened; and in order to find an answer, he pushed aside the broken thatch, so that his head appeared above the *débris*. "The gourbi leveled to the ground!" he exclaimed, "surely a waterspout has passed along the coast."

He felt all over his body to perceive what injuries he had sustained, but not a sprain nor a scratch could he discover. "Where are you, Ben Zoof?" he shouted.

"Here, sir!" and with military promptitude a second head protruded from the rubbish.

"Have you any notion what has happened, Ben Zoof?"

"I've a notion, captain, that it's all up with us."

"Nonsense, Ben Zoof; it is nothing but a waterspout!"

"Very good, sir;" was the philosophical reply, immediately followed by the query, "Any bones broken, sir?"

"None whatever," said the captain.

Both men were soon on their feet, and began to make a vigorous clearance of the ruins, beneath which they found that their arms, cooking utensils, and other property, had sustained little injury.

"By-the-by, what o'clock is it?" asked the captain.

"It must be eight o'clock, at least," said Ben Zoof, looking at the sun, which was a considerable height above the horizon. "It is almost time for us to start."

"To start! what for?"

"To keep your appointment with Count Timascheff."

"By Jove! I had forgotten all about it!" exclaimed Servadac. Then looking at his watch, he cried, "What are you thinking of, Ben Zoof? It is scarcely two o'clock.

"Two in the morning, or two in the afternoon?" asked Ben Zoof, again regarding the sun.

Servadac raised his watch to his ear. "It is going," said he; "but, by all the wines of Médoc,

I am puzzled. Don't you see the sun is in the west? It must be near setting."

"Setting, captain! Why, it is rising finely, like a conscript at the sound of the reveille. It is considerably higher since we have been talking."

Incredible as it might appear, the fact was undeniable that the sun was rising over the Shelif from that quarter of the horizon behind which it usually sank for the latter portion of its daily round. They were utterly bewildered. Some mysterious phenomenon must not only have altered the position of the sun in the sidereal system, but must even have brought about an important modification of the earth's rotation on her axis.

Captain Servadac consoled himself with the prospect of reading an explanation of the mystery in next week's newspapers, and turned his attention to what was to him of more immediate importance. "Come, let us be off," said he to his orderly; "though heaven and earth be topsy-turvy, I must be at my post this morning."

"To do Count Timascheff the honor of running him through the body," added Ben Zoof.

If Servadac and his orderly had been less preoccupied, they would have noticed that a variety of other physical changes besides the apparent alteration in the movement of the sun had been evolved during the atmospheric disturbances of that New Year's night. As they descended the steep footpath leading from the cliff towards the Shelif, they were conscious that their respiration became forced and rapid, like that of a mountaineer when he has reached an altitude where the air has become less charged with oxygen. They were also conscious that their voices were thin and feeble; either they must themselves have become rather deaf or it was evident that the air had become less capable of transmitting sound.

The weather, which on the previous evening had been very foggy, had entirely changed. The sky had assumed a singular tint, and was soon covered with lowering clouds that completely hid the sun. There were, indeed, all the signs of a coming storm, but the vapor, on account of the insufficient condensation, failed to fall.

The sea appeared quite deserted, a most unusual circumstance along this coast, and not a sail nor a trail of smoke broke the gray monotony of water and sky. The limits of the horizon, too, had become much circumscribed. On land, as well as on sea, the remote distance had completely disappeared, and it seemed as though the globe had assumed a more decided convexity.

At the pace at which they were walking, it was very evident that the captain and his attendant would not take long to accomplish the three miles that lay between the gourbi and the place of rendezvous. They did not exchange a word, but each was conscious of an unusual buoyancy, which appeared to lift up their bodies and give as it were, wings to their feet. If Ben Zoof had expressed his sensations in words, he would have said that he felt "up to anything," and he had even forgotten to taste so much as a crust of bread, a lapse of memory of which the worthy soldier was rarely guilty.

As these thoughts were crossing his mind, a harsh bark was heard to the left of the footpath, and a jackal was seen emerging from a large grove of lentisks. Regarding the two wayfarers with manifest uneasiness, the beast took up its position at the foot of a rock, more than thirty feet in height. It belonged to an African species distinguished by a black spotted skin, and a black line down the front of the legs. At night-time when they scour the country in herds, the creatures are somewhat formidable, but singly they are no more dangerous than a dog. Though by no means afraid of them, Ben Zoof had a particular aversion to jackals, perhaps because they had no place among the fauna of his beloved Montmartre. He accordingly began to make threatening gestures, when, to the unmitigated astonishment of himself and the captain, the animal darted forward, and in one single bound gained the summit of the rock.

"Good Heavens!" cried Ben Zoof, "that leap must have been thirty feet at least."

"True enough," replied the captain; "I never saw such a jump."

Meantime the jackal had seated itself upon its haunches, and was staring at the two men with an air of impudent defiance. This was too much for Ben Zoof's forbearance, and stooping down he caught up a huge stone, when to his surprise, he found that it was no heavier than a piece of petrified sponge. "Confound the brute!" he exclaimed, "I might as well throw a piece of bread at him. What accounts for its being as light as this?"

Nothing daunted, however, he hurled the stone into the air. It missed its aim; but the jackal, deeming it on the whole prudent to decamp, disappeared across the trees and hedges with a series of bounds, which could only be likened to those that might be made by an india-rubber kangaroo. Ben Zoof was sure that his own powers of propelling must equal those of a howitzer, for his stone, after a lengthened flight through the air, fell to the ground full five hundred paces the other side of the rock.

The orderly was now some yards ahead of his master, and had reached a ditch full of water, and about ten feet wide. With the intention of clearing it, he made a spring, when a loud cry burst from Servadac. "Ben Zoof, you idiot! What are you about? You will break your back!"

And well might he be alarmed, for Ben Zoof had sprung to a height of forty feet into the air. Fearful of the consequences that would attend the descent of his servant to *terra firma*, Servadac bounded forwards, to be on the other side of the ditch in time to break his fall. But the muscular effort that he made carried him in his turn to an altitude of thirty feet; in his ascent he passed Ben Zoof, who had already commenced his downward course; and then, obedient to the laws of gravitation, he descended with increasing rapidity, and alighted upon the earth without experiencing a shock greater than if he had merely made a bound of four or five feet high.

Ben Zoof burst into a roar of laughter. "Bravo!" he said, "we should make a good pair of clowns."

But the captain was inclined to take a more serious view of the matter. For a few seconds he stood lost in thought, then said solemnly, "Ben Zoof, I must be dreaming. Pinch me hard; I must be either asleep or mad."

"It is very certain that something has happened to us," said Ben Zoof. "I have occasionally dreamed

that I was a swallow flying over the Montmartre, but I never experienced anything of this kind before; it must be peculiar to the coast of Algeria."

Servadac was stupefied; he felt instinctively that he was not dreaming, and yet was powerless to solve the mystery. He was not, however, the man to puzzle himself for long over any insoluble problem. "Come what may," he presently exclaimed, "we will make up our minds for the future to be surprised at nothing."

"Right, captain," replied Ben Zoof; "and, first of all, let us settle our little score with Count Timascheff."

Beyond the ditch lay a small piece of meadow land, about an acre in extent. A soft and delicious herbage carpeted the soil, whilst trees formed a charming framework to the whole. No spot could have been chosen more suitable for the meeting between the two adversaries.

Servadac cast a hasty glance round. No one was in sight. "We are the first on the field," he said.

"Not so sure of that, sir," said Ben Zoof.

"What do you mean?" asked Servadac, looking at his watch, which he had set as nearly as possible by the sun before leaving the gourbi; "it is not nine o'lock yet."

"Look up there, sir. I am much mistaken if that is not the sun;" and as Ben Zoof spoke, he pointed directly overhead to where a faint white disc was dimly visible through the haze of clouds.

"Nonsense!" exclaimed Servadac. "How can the sun be in the zenith, in the month of January, in lat. 39° N.?"

"Can't say, sir. I only know the sun is there; and at the rate he has been traveling, I would lay my cap to a dish of couscous that in less than three hours he will have set."

Hector Servadac mute and motionless, stood with folded arms. Presently he roused himself, and began to look about again. "What means all this?" he murmured. "Laws of gravity disturbed! Points of the compass reversed! The length of day reduced one half! Surely this will indefinitely postpone my meeting with the count. Something has happened; Ben Zoof and I cannot both be mad!"

The orderly, meantime, surveyed his master with the greatest equanimity; no phenomenon, however extraordinary, would have drawn from him a single exclamation of surprise. "Do you see anyone, Ben Zoof?" asked the captain, at last.

"No one, sir; the count has evidently been and gone."

"But supposing that to be the case," persisted the captain, "my seconds would have waited, and not seeing me, would have come on towards the gourbi. I can only conclude that they have been unable to get here; and as for Count Timascheff—"

Without finishing his sentence, Captain Servadac, thinking it just probable that the count, as on the previous evening, might come by water, walked to the ridge of rock that overhung the shore, in order to ascertain if the *Dobryna* were anywhere in sight. But the sea was deserted, and for the first time the captain noticed that, although the wind was calm, the waters were unusually agitated, and seethed and foamed as though they were boiling. It was very certain that the yacht would have found a difficulty in holding her own in such a swell. Another thing that now struck Servadac was the extraordinary contraction of the horizon. Under ordinary circumstances, his elevated position would have allowed him a radius of vision at least five and twenty miles in length; but the terrestrial sphere seemed, in the course of the last few hours, to have become considerably reduced in volume, and he could now see for a distance of only six miles in every direction.

Meantime, with the agility of a monkey, Ben Zoof had clambered to the top of a eucalyptus, and from his lofty perch was surveying the country to the south, as well as towards both Tenes and Mostaganem. On descending, he informed the captain that the plain was deserted.

"We will make our way to the river, and get over into Mostaganem," said the captain.

The Shelif was not more than a mile and a half from the meadow, but no time was to be lost if the two men were to reach the town before nightfall. Though still hidden by heavy clouds, the sun was evidently declining fast; and what was equally inexplicable, it was not following the oblique curve that in these latitudes and at this time of year might be expected, but was sinking perpendicularly down to the horizon.

As he went along, Captain Servadac pondered deeply. Perchance some unheard-of phenomenon had modified the rotary motion of the globe; or perhaps the Algerian coast had been transported beyond the equator into the southern hemisphere. Yet the earth, with the exception of the alteration in its convexity, in this part of Africa at least, seemed to have undergone no change of any very great importance. As far as the eye could reach, the shore was, as it had ever been, a succession of cliffs, beach, and arid rocks, tinged with a red ferruginous hue. To the south—if south, in this inverted order of things, it might still be called—the face of the country also appeared unaltered, and some leagues away, the peaks of the Merdeyah mountains still retained their accustomed outline.

Presently a rift in the clouds gave passage to an oblique ray of light that clearly proved that the sun was setting in the east.

"Well, I am curious to know what they think of all this at Mostaganem," said the captain. "I wonder, too, what the Minister of War will say when he receives a telegram informing him that his African colony has become, not morally, but physically disorganized; that the cardinal points are at variance with ordinary rules, and that the sun in the month of January is shining down vertically upon our heads."

Ben Zoof, whose ideas of discipline were extremely rigid, at once suggested that the colony should be put under the surveillance of the police, that the cardinal points should be placed under restraint, and that the sun should be shot for breach of discipline.

Meantime, they were both advancing with the utmost speed. The decompression of the atmosphere made the specific gravity of their bodies extraordinarily light, and they ran like hares and leaped like chamois. Leaving the devious windings of the footpath, they went as a crow would fly across the country. Hedges, trees, and streams were cleared at a bound, and under these conditions Ben Zoof felt that he could have overstepped Montmartre at a single stride. The earth seemed as

elastic as the spring-board of an acrobat; they scarcely touched it with their feet, and their only fear was lest the height to which they were propelled would consume the time which they were saving by their short cut across the fields.

It was not long before their wild career brought them to the right bank of the Shelif. Here they were compelled to stop, for not only had the bridge completely disappeared, but the river itself no longer existed. Of the left bank there was not the slightest trace, and the right bank, which on the previous evening had bounded the yellow stream, as it murmured peacefully along the fertile plain, had now become the shore of a tumultuous ocean, its azure waters extending westwards far as the eye could reach, and annihilating the tract of country which had hitherto formed the district of Mostaganem. The shore coincided exactly with what had been the right bank of the Shelif, and in a slightly curved line ran north and south, whilst the adjacent groves and meadows all retained their previous positions. But the river-bank had become the shore of an unknown sea.

Eager to throw some light upon the mystery, Servadac hurriedly made his way through the oleander bushes that overhung the shore, took up some water in the hollow of his hand, and carried it to his lips. "Salt as brine!" he exclaimed, as soon as he had tasted it. "The sea has undoubtedly swallowed up all the western part of Algeria."

"It will not last long, sir," said Ben Zoof. "It is, probably, only a severe flood."

The captain shook his head. "Worse than that, I fear, Ben Zoof," he replied with emotion. "It is a catastrophe that may have very serious consequences. What can have become of all my friends and fellow-officers?"

Ben Zoof was silent. Rarely had he seen his master so much agitated; and though himself inclined to receive these phenomena with philosophic indifference, his notions of military duty caused his countenance to reflect the captain's expression of amazement.

But there was little time for Servadac to examine the changes which a few hours had wrought. The sun had already reached the eastern horizon, and just as though it were crossing the ecliptic under the tropics, it sank like a cannon ball into the sea. Without any warning, day gave place to night, and earth, sea, and sky were immediately wrapped in profound obscurity.

CHAPTER VI

THE CAPTAIN MAKES AN EXPLORATION

HECTOR SERVADAC was not the man to remain long unnerved by any untoward event. It was part of his character to discover the why and the wherefore of everything that came under his observation, and he would have faced a cannon ball the more unflinchingly from understanding the dynamic force by which it was propelled. Such being his temperament, it may well be imagined that he was anxious not to remain long in ignorance of the cause of the phenomena which had been so startling in their consequences.

"We must inquire into this to-morrow," he exclaimed, as darkness fell suddenly upon them. Then, after a pause, he added: "That is to say, if there is to be a to-morrow; for if I were to be put to the torture, I could not tell what has become of the sun."

"May I ask, sir, what we are to do now?" put in Ben Zoof.

"Stay where we are for the present; and when daylight appears—if it ever does appear—we will explore the coast to the west and south, and return to the gourbi. If we can find out nothing else, we must at least discover where we are."

"Meanwhile, sir, may we go to sleep?"

"Certainly, if you like, and if you can."

Nothing loath to avail himself of his master's permission, Ben Zoof crouched down in an angle of the shore, threw his arms over his eyes, and very soon slept the sleep of the ignorant, which is often sounder than the sleep of the just.

Overwhelmed by the questions that crowded upon his brain, Captain Servadac could only wander up and down the shore. Again and again he asked himself what the catastrophe could portend. Had the towns of Algiers, Oran, and Mostaganem escaped the inundation? Could he bring himself to believe that all the inhabitants, his friends, and comrades had perished; or was it not more probable that the Mediterranean had merely invaded the region of the mouth of the Shelif? But this supposition did not in the least explain the other physical disturbances. Another hypothesis that presented itself to his mind was that the African coast might have been suddenly transported to the equatorial zone. But although this might get over the difficulty of the altered altitude of the sun and the absence of twilight, yet it would neither account for the sun setting in the east, nor for the length of the day being reduced to six hours.

"We must wait till to-morrow," he repeated; adding, for he had become distrustful of the future, "that is to say, if to-morrow ever comes."

Although not very learned in astronomy, Servadac was acquainted with the position of the principal constellations. It was therefore a considerable disappointment to him that, in consequence of the heavy clouds, not a star was visible in the firmament. To have ascertained that the pole-star had become displaced would have been an undeniable proof that the earth was revolving on a new axis; but not a rift appeared in the lowering clouds, which seemed to threaten torrents of rain.

It happened that the moon was new on that very day; naturally, therefore, it would have set at the same time as the sun. What, then, was the captain's bewilderment when, after he had been walking for about an hour and a half, he noticed on the western horizon a strong glare that penetrated even the masses of the clouds.

"The moon in the west!" he cried aloud; but suddenly bethinking himself, he added: "But no, that cannot be the moon; unless she has shifted very much nearer the earth, she could never give a light as intense as this."

As he spoke the screen of vapor was illuminated to such a degree that the whole country was, as it were, bathed in twilight. "What can this be?" soliloquized the captain. "It cannot be the sun, for the sun set in the east only an hour and a half ago. Would that those clouds would disclose what enormous luminary lies behind them! What a fool I was not to have learnt more astronomy! Perhaps,

after all, I am racking my brain over something that is quite in the ordinary course of nature."

But, reason as he might, the mysteries of the heavens still remained impenetrable. For about an hour some luminous body, its disc evidently of gigantic dimensions, shed its rays upon the upper strata of the clouds; then, marvelous to relate, instead of obeying the ordinary laws of celestial mechanism, and descending upon the opposite horizon, it seemed to retreat farther off, grew dimmer, and vanished.

The darkness that returned to the face of the earth was not more profound than the gloom which fell upon the captain's soul. Everything was incomprehensible. The simplest mechanical rules seemed falsified; the planets had defied the laws of gravitation; the motions of the celestial spheres were erroneous as those of a watch with a defective mainspring, and there was reason to fear that the sun would never again shed his radiance upon the earth.

But these last fears were groundless. In three hours' time, without any intervening twilight, the morning sun made its appearance in the west, and day once more had dawned. On consulting his watch, Servadac found that night had lasted precisely six hours. Ben Zoof, who was unaccustomed to so brief a period of repose, was still slumbering soundly.

"Come, wake up!" said Servadac, shaking him by the shoulder; "it is time to start."

"Time to start?" exclaimed Ben Zoof, rubbing his eyes. "I feel as if I had only just gone to sleep."

"You have slept all night, at any rate," replied the captain; "it has only been for six hours, but you must make it enough."

"Enough it shall be, sir," was the submissive rejoinder.

"And now," continued Servadac, "we will take the shortest way back to the gourbi, and see what our horses think about it all."

"They will think that they ought to be groomed," said the orderly.

"Very good; you may groom them and saddle them as quickly as you like. I want to know what has become of the rest of Algeria: if we cannot get round by the south to Mostaganem, we must go eastwards to Tenes." And forthwith they started. Beginning to feel hungry, they had no hesitation in gathering figs, dates, and oranges from the plantations that formed a continuous rich and luxuriant orchard along their path. The district was quite deserted, and they had no reason to fear any legal penalty.

In an hour and a half they reached the gourbi. Everything was just as they had left it, and it was evident that no one had visited the place during their absence. All was desolate as the shore they had quitted.

The preparations for the expedition were brief and simple. Ben Zoof saddled the horses and filled his pouch with biscuits and game; water, he felt certain, could be obtained in abundance from the numerous affluents of the Shelif, which, although they had now become tributaries of the Mediterranean, still meandered through the plain. Captain Servadac mounted his horse Zephyr, and Ben Zoof simultaneously got astride his mare Galette, named after the mill of Montmartre. They galloped off in the direction of the Shelif, and were not long in discovering that the diminution in the pressure of the atmosphere had precisely the same effect upon their horses as it had had upon themselves. Their muscular strength seemed five times as great as hitherto; their hoofs scarcely touched the ground, and they seemed transformed from ordinary quadrupeds into veritable hippogriffs. Happily, Servadac and his orderly were fearless riders; they made no attempt to curb their steeds, but even urged them to still greater exertions. Twenty minutes sufficed to carry them over the four or five miles that intervened between the gourbi and the mouth of the Shelif; then, slackening their speed, they proceeded at a more leisurely pace to the southeast, along what had once been the right bank of the river, but which, although it still retained its former characteristics, was now the boundary of a sea, which extending farther than the limits of the horizon, must have swallowed up at least a large portion of the province of Oran. Captain Servadac knew the country well; he had at one time been engaged upon a trigonometrical survey of the district, and consequently had an accurate knowledge of its topography. His idea now was to draw up a report of his investigations: to whom that report should be delivered was a problem he had yet to solve.

During the four hours of daylight that still remained, the travelers rode about twenty-one miles from the river mouth. To their vast surprise, they did not meet a single human being. At nightfall they again encamped in a slight bend of the shore, at a point which on the previous evening had faced the mouth of the Mina, one of the left-hand affluents of the Shelif, but now absorbed into the newly revealed ocean. Ben Zoof made the sleeping accommodation as comfortable as the circumstances would allow; the horses were hobbled and turned out to feed upon the rich pasture that clothed the shore, and the night passed without special incident.

At sunrise on the following morning, the 2nd of January, or what, according to the ordinary calendar, would have been the night of the 1st, the captain and his orderly remounted their horses, and during the six-hours' day accomplished a distance of forty-two miles. The right bank of the river still continued to be the margin of the land, and only in one spot had its integrity been impaired. This was about twelve miles from the Mina, and on the site of the annex or suburb of Surkelmittoo. Here a large portion of the bank had been swept away, and the hamlet, with its eight hundred inhabitants, had no doubt been swallowed up by the encroaching waters. It seemed, therefore, more than probable that a similar fate had overtaken the larger towns beyond the Shelif.

In the evening the explorers encamped, as previously, in a nook of the shore which here abruptly terminated their new domain, not far from where they might have expected to find the important village of Memounturroy; but of this, too, there was now no trace. "I had quite reckoned upon a supper and a bed at Orleansville to-night," said Servadac, as, full of despondency, he surveyed the waste of water.

"Quite impossible," replied Ben Zoof, "except you had gone by a boat. But cheer up, sir, cheer up; we will soon devise some means for getting across to Mostaganem."

"If, as I hope" rejoined the captain, "we are on a peninsula, we are more likely to get to Tenes; there we shall hear the news."

"Far more likely to carry the news ourselves," answered Ben Zoof, as he threw himself down for his night's rest.

Six hours later, only waiting for sunrise, Captain Servadac set himself in movement again to renew his investigations. At this spot the shore, that hitherto had been running in a southeasterly direction, turned abruptly to the north, being no longer formed by the natural bank of the Shelif, but consisting of an absolutely new coast-line. No land was in sight. Nothing could be seen of Orleansville, which ought to have been about six miles to the southwest; and Ben Zoof, who had mounted the highest point of view attainable, could distinguish sea, and nothing but sea, to the farthest horizon.

Quitting their encampment and riding on, the bewildered explorers kept close to the new shore. This, since it had ceased to be formed by the original river bank, had considerably altered its aspect. Frequent landslips occurred, and in many places deep chasms rifted the ground; great gaps furrowed the fields, and trees, half uprooted, overhung the water, remarkable by the fantastic distortions of their gnarled trunks, looking as though they had been chopped by a hatchet.

The sinuosities of the coast line, alternately gully and headland, had the effect of making a devious progress for the travelers, and at sunset, although they had accomplished more than twenty miles, they had only just arrived at the foot of the Merdeyah Mountains, which, before the cataclysm, had formed the extremity of the chain of the Little Atlas. The ridge, however, had been violently ruptured, and now rose perpendicularly from the water.

On the following morning Servadac and Ben Zoof traversed one of the mountain gorges; and next, in order to make a more thorough acquaintance with the limits and condition of the section of Algerian territory of which they seemed to be left as the sole occupants, they dismounted, and proceeded on foot to the summit of one of the highest peaks. From this elevation they ascertained that from the base of the Merdeyah to the Mediterranean, a distance of about eighteen miles, a new coast line had come into existence; no land was visible in any direction; no isthmus existed to form a connecting link with the territory of Tenes, which had entirely disappeared. The result was that Captain Servadac was driven to the irresistible conclusion that the tract of land which he had been surveying was not, as he had at first imagined, a peninsula; it was actually an island.

Strictly generally speaking, this island was quadrilateral, but the sides were so irregular that it was much more nearly a triangle, the comparison of the sides exhibiting these proportions: The section of the right bank of the Shelif, seventy-two miles; the southern boundary from the Shelif to the chain of the Little Atlas, twenty-one miles; from the Little Atlas to the Mediterranean, eighteen miles; and sixty miles of the shore of the Mediterranean itself, making in all an entire circumference of about 171 miles.

"What does it all mean?" exclaimed the captain, every hour growing more and more bewildered.

"The will of providence, and we must submit," replied Ben Zoof, calm and undisturbed. With this reflection, the two men silently descended the mountain and remounted their horses. Before evening they had reached the Mediterranean. On their road they failed to discern a vestige of the little town of Montenotte; like Tenes, of which not so much as a ruined cottage was visible on the horizon, it seemed to be annihilated.

On the following day, the 6th of January, the two men made a forced march along the coast of the Mediterranean, which they found less altered than the captain had at first supposed; but four villages had entirely disappeared, and the headlands, unable to resist the shock of the convulsion, had been detached from the mainland.

The circuit of the island had been now completed, and the explorers, after a period of sixty hours, found themselves once more beside the ruins of their gourbi. Five days, or what, according to the established order of things, would have been two days and a half, had been occupied in tracing the boundaries of their new domain; and they had ascertained beyond a doubt that they were the sole human inhabitants left upon the island.

"Well, sir, here you are, Governor General of Algeria!" exclaimed Ben Zoof, as they reached the gourbi.

"With not a soul to govern," gloomily rejoined the captain.

"How so? Do you not reckon me?"

"Pshaw! Ben Zoof, what are you?"

"What am I? Why, I am the population."

The captain deigned no reply, but, muttering some expressions of regret for the fruitless trouble he had taken about his rondo, betook himself to rest.

CHAPTER VII

BEN ZOOF WATCHES IN VAIN

In a few minutes the governor general and his population were asleep. The gourbi being in ruins, they were obliged to put up with the best accommodation they could find in the adjacent erection. It must be owned that the captain's slumbers were by no means sound; he was agitated by the consciousness that he had hitherto been unable to account for his strange experiences by any reasonable theory. Though far from being advanced in the knowledge of natural philosophy, he had been instructed, to a certain degree, in its elementary principles; and, by an effort of memory, he managed to recall some general laws which he had almost forgotten. He could understand that an altered inclination of the earth's axis with regard to the ecliptic would introduce a change of position in the cardinal points, and bring about a displacement of the sea; but the hypothesis entirely failed to account, either for the shortening of the days, or for the diminution in the pressure of the atmosphere. He felt that his judgment was utterly baffled; his only remaining hope was that the chain of marvels was not yet complete, and that something farther might throw some light upon the mystery.

Ben Zoof's first care on the following morning was to provide a good breakfast. To use his own phrase, he was as hungry as the whole population of three million Algerians, of whom he was the

representative, and he must have enough to eat. The catastrophe which had overwhelmed the country had left a dozen eggs uninjured, and upon these, with a good dish of his famous couscous, he hoped that he and his master might have a sufficiently substantial meal. The stove was ready for use, the copper skillet was as bright as hands could make it, and the beads of condensed steam upon the surface of a large stone alcarraza gave evidence that it was supplied with water. Ben Zoof at once lighted a fire, singing all the time, according to his wont, a snatch of an old military refrain.

Ever on the lookout for fresh phenomena, Captain Servadac watched the preparations with a curious eye. It struck him that perhaps the air, in its strangely modified condition, would fail to supply sufficient oxygen, and that the stove in consequence might not fulfill its function. But no; the fire was lighted just as usual, and fanned into vigor by Ben Zoof applying his mouth in lieu of bellows, and a bright flame started up from the midst of the twigs and coal. The skillet was duly set upon the stove, and Ben Zoof was prepared to wait awhile for the water to boil. Taking up the eggs, he was surprised to notice that they hardly weighed more than they would if they had been mere shells; but he was still more surprised when he saw that before the water had been two minutes over the fire it was at full boil.

"By jingo!" he exclaimed, "a precious hot fire!"

Servadac reflected. "It cannot be that the fire is hotter," he said, "the peculiarity must be in the water." And taking down a centigrade thermometer, which hung upon the wall, he plunged it into the skillet. Instead of 100°, the instrument registered only 66°.

"Take my advice, Ben Zoof," he said, "leave your eggs in the saucepan a good quarter of an hour."

"Boil them hard! That will never do," objected the orderly.

"You will not find them hard, my good fellow. Trust me, we shall be able to dip our sippets into the yolks easily enough."

The captain was quite right in his conjecture, that this new phenomenon was caused by a diminution in the pressure of the atmosphere. Water boiling at a temperature of 66° was itself an evidence that the ocean of air above the earth's surface had been reduced by one-third of its quantity. The identical phenomenon would have occurred at the summit of a mountain 35,000 feet high; and had Servadac been in possession of a barometer, he would have immediately discovered the fact that only now for the first time, as the result of experiment, revealed itself to him—a fact, moreover, which accounted for the effect upon the blood-vessels which both he and Ben Zoof had experienced, as well as for the attenuation of their voices and their accelerated breathing. "And yet," he agreed with himself, "if our encampment has been projected to so great an elevation, how is it that the sea remains at its proper level?"

Once again Hector Servadac, though capable of tracing consequences, felt himself totally at a loss to comprehend their cause; hence his agitation and bewilderment!

After their prolonged immersion in the boiling water, the eggs were found to be only just sufficiently cooked; the couscous was very much in the same condition; and Ben Zoof came to the conclusion that in future he must be careful to commence his culinary operations an hour earlier. He was rejoiced at last to help his master, who, in spite of his perplexed preoccupation, seemed to have a very fair appetite for breakfast.

"Well, captain?" said Ben Zoof presently, such being his ordinary way of opening conversation.

"Well, Ben Zoof?" was the captain's invariable response to his servant's formula.

"What are we to do now, sir?"

"We can only for the present wait patiently where we are. We are encamped upon an island, and therefore we can only be rescued by sea."

"But do you suppose that any of our friends are still alive?" asked Ben Zoof.

"Oh, I think we must indulge the hope that this catastrophe has not extended far. We must trust that it has limited its mischief to some small portion of the Algerian coast, and that our friends are all alive and well. No doubt the governor general will be anxious to investigate the full extent of the damage, and will send a vessel from Algiers to explore. It is not likely that we shall be forgotten. What you have to do then, Ben Zoof, is to keep a sharp lookout, and to be ready, in case a vessel should appear, to make signals at once."

"But if no vessel should appear!" sighed the orderly.

"Then we must build a boat, and go in search of those who do not come in search of us."

"Very good. But what sort of a sailor are you?"

"Everyone can be a sailor when he must," said Servadac calmly.

Ben Zoof said no more. For several succeeding days he scanned the horizon unintermittently with his telescope. His watching was in vain. No ship appeared upon the desert sea. "By the name of a Kabyle!" he broke out impatiently, "his Excellency is grossly neglige nt!"

Although the days and nights had become reduced from twenty-four hours to twelve, Captain Servadac would not accept the new condition of things, but resolved to adhere to the computations of the old calendar. Notwithstanding, therefore, that the sun had risen and set twelve times since the commencement of the new year, he persisted in calling the following day the 6th of January. His watch enabled him to keep an accurate account of the passing hours.

In the course of his life, Ben Zoof had read a few books. After pondering one day, he said: "It seems to me, captain, that you have turned into Robinson Crusoe, and that I am your man Friday. I hope I have not become a negro."

"No," replied the captain. "Your complexion isn't the fairest in the world, but you are not black yet."

"Well, I had much sooner be a white Friday than a black one," rejoined Ben Zoof.

Still no ship appeared; and Captain Servadac, after the example of all previous Crusoes, began to consider it advisable to investigate the resources of his domain. The new territory of which he had become the monarch he named Gourbi Island. It had a superficial area of about nine hundred square miles. Bullocks, cows, goats, and sheep existed in considerable numbers; and as there seemed already to be an abundance of game, it was hardly likely

that a future supply would fail them. The condition of the cereals was such as to promise a fine ingathering of wheat, maize, and rice; so that for the governor and his population, with their two horses, not only was there ample provision, but even if other human inhabitants besides themselves should yet be discovered, there was not the remotest prospect of any of them perishing by starvation.

From the 6th to the 13th of January the rain came down in torrents; and, what was quite an unusual occurrence at this season of the year, several heavy storms broke over the island. In spite, however, of the continual downfall, the heavens still remained veiled in cloud. Servadac, moreover, did not fail to observe that for the season the temperature was unusually high; and, as a matter still more surprising, that it kept steadily increasing, as though the earth were gradually and continuously approximating to the sun. In proportion to the rise of temperature, the light also assumed greater intensity; and if it had not been for the screen of vapor interposed between the sky and the island, the irradiation which would have illumined all terrestrial objects would have been vivid beyond all precedent.

But neither sun, moon, nor star ever appeared; and Servadac's irritation and annoyance at being unable to identify any one point of the firmament may be more readily imagined than described. On one occasion Ben Zoof endeavored to mitigate his master's impatience by exhorting him to assume the resignation, even if he did not feel the indifference, which he himself experienced; but his advice was received with so angry a rebuff that he retired in all haste, abashed, to resume his watchman's duty, which he performed with exemplary perseverance. Day and night, with the shortest possible intervals of rest, despite wind, rain, and storm, he mounted guard upon the cliff—but all in vain. Not a speck appeared upon the desolate horizon. To say the truth, no vessel could have stood against the weather. The hurricane raged with tremendous fury, and the waves rose to a height that seemed to defy calculation. Never, even in the second era of creation, when, under the influence of internal heat, the waters rose in vapor to descend in deluge back upon the world, could meteorological phenomena have been developed with more impressive intensity.

But by the night of the 13th the tempest appeared to have spent its fury; the wind dropped; the rain ceased as if by a spell; and Servadac, who for the last six days had confined himself to the shelter of his roof, hastened to join Ben Zoof at his post upon the cliff. Now, he thought, there might be a chance of solving his perplexity; perhaps now the huge disc, of which he had an imperfect glimpse on the night of the 31st of December, might again reveal itself; at any rate, he hoped for an opportunity of observing the constellations in a clear firmament above.

The night was magnificent. Not a cloud dimmed the luster of the stars, which spangled the heavens in surpassing brilliancy, and several nebulæ which hitherto no astronomer had been able to discern without the aid of a telescope were clearly visible to the naked eye.

By a natural impulse, Servadac's first thought was to observe the position of the pole-star. It was in sight, but so near to the horizon as to suggest the utter impossibility of its being any longer the central pivot of the sidereal system; it occupied a position through which it was out of the question that the axis of the earth indefinitely prolonged could ever pass. In his impression he was more thoroughly confirmed when, an hour later, he noticed that the star had approached still nearer the horizon, as though it had belonged to one of the zodiacal constellations.

The pole-star being manifestly thus displaced, it remained to be discovered whether any other of the celestial bodies had become a fixed center around which the constellations made their apparent daily revolutions. To the solution of this problem Servadac applied himself with the most thoughtful diligence. After patient observation, he satisfied himself that the required conditions were answered by a certain star that was stationary not far from the horizon. This was Vega, in the constellation Lyra, a star which, according to the precession of the equinoxes, will take the place of our pole-star 12,000 years hence. The most daring imagination could not suppose that a period of 12,000 years had been crowded into the space of a fortnight; and therefore the captain came, as to an easier conclusion, to the opinion that the earth's axis had been suddenly and immensely shifted; and from the fact that the axis, if produced, would pass through a point so litle removed above the horizon, he deduced the inference that the Mediterranean must have been transported to the equator.

Lost in bewildering maze of thought, he gazed long and intently upon the heavens. His eyes wandered from where the tail of the Great Bear, now a zodiacal constellation, was scarcely visible above the waters, to where the stars of the southern hemi sphere were just breaking on his view. A cry from Ben Zoof recalled him to himself.

"The moon!" shouted the orderly, as though over joyed at once again beholding what the poet has called:

"The kind companion of terrestrial night;"

and he pointed to a disc that was rising at a spot precisely opposite the place where they would have expected to see the sun. "The moon!" again he cried.

But Captain Servadac could not altogether enter into his servant's enthusiasm. If this were actually the moon, her distance from the earth must have been increased by some millions of miles. He was rather disposed to suspect that it was not the earth's satellite at all, but some planet with its apparent magnitude greatly enlarged by its approximation to the earth. Taking up the powerful field-glass which he was accustomed to use in his surveying operations, he proceeded to investigate more carefully the luminous orb. But he failed to trace any of the lineaments, supposed to resemble a human face, that mark the lunar surface; he failed to decipher any indications of hill and plain; nor could he make out the aureole of light which emanates from what astronomers have designated Mount Tycho. "It is not the moon," he said slowly.

"Not the moon?" cried Ben Zoof. "Why not?"

"It is not the moon," again affirmed the captain.

"Why not?" repeated Ben Zoof, unwilling to renounce his first impression.

"Because there is a small satellite in attendance." And the captain drew his servant's attention to a bright speck, apparently about the size of one of Jupiter's satellites seen through a moderate telescope, that was clearly visible just within the focus of his glass.

Here, then, was a fresh mystery. The orbit of this planet was assuredly interior to the orbit of the earth, because it accompanied the sun in its apparent motion; yet it was neither Mercury nor Venus, because neither one nor the other of these has any satellite at all.

The captain stamped and stamped again with mingled vexation, agitation, and bewilderment. "Confound it!" he cried, "if this is neither Venus nor Mercury, it must be the moon; but if it is the moon, whence, in the name of all the gods, has she picked up another moon for herself?"

The captain was in dire perplexity.

CHAPTER VIII

VENUS IN PERILOUS PROXIMITY

THE light of the returning sun soon extinguished the glory of the stars, and rendered it necessary for the captain to postpone his observations. He had sought in vain for further trace of the huge disc that had so excited his wonder on the first and it seemed most probable that, in its irregular orbit, it had been carried beyond the range of vision.

The weather was still superb. The wind, after veering to the west, had sunk to a perfect calm. Pursuing its inverted course, the sun rose and set with undeviating regularity; and the days and nights were still divided into periods of precisely six hours each—a sure proof that the sun remained close to the new equator which manifestly passed through Gourbi Island.

Meanwhile the temperature was steadily increasing. The captain kept his thermometers close at hand where he could repeatedly consult it, and on the 15th he found that it registered 50° centigrade in the shade.

No attempt had been made to rebuild the gourbi, but the captain and Ben Zoof managed to make up quarters sufficiently comfortable in the principal apartment of the adjoining structure, where the stone walls, that at first afforded a refuge from the torrents of rain, now formed an equally acceptable shelter from the burning sun. The heat was becoming insufferable, surpassing the heat of Senegal and other equatorial regions; not a cloud ever tempered the intensity of the solar rays; and unless some modification ensued, it seemed inevitable that all vegetation should become scorched and burnt off from the face of the island.

In spite, however, of the profuse perspirations from which he suffered, Ben Zoof, constant to his principles, expressed no surprise at the unwonted heat. No remonstrances from his master could induce him to abandon his watch from the cliff. To withstand the vertical beams of that noontide sun would seem to require a skull of brass and a brain of adamant; but yet, hour after hour, he would remain conscientiously scanning the surface of the Mediterranean, which, calm and deserted, lay outstretched before him. On one occasion, Servadac, in reference to his orderly's indomitable perseverance, happened to remark that he thought he must have been born in the heart of equatorial Africa; to which Ben Zoof replied, with the utmost dignity, that he was born at Montmartre, which was all the same. The worthy fellow was unwilling to own that, even in the matter of heat, the tropics could in any way surpass his own much-loved home.

This unprecedented temperature very soon began to take effect upon the products of the soil. The sap rose rapidly in the trees, so that in the course of a few days buds, leaves, flowers, and fruit had come to full maturity. It was the same with the cereals; wheat and maize sprouted and ripened as if by magic, and for a while a rank and luxuriant pasturage clothed the meadows. Summer and autumn seemed blended into one. If Captain Servadac had been more deeply versed in astronomy, he would perhaps have been able to bring to bear his knowledge that if the axis of the earth, as everything seemed to indicate, now formed a right angle with the plane of the ecliptic, her various seasons, like those of the planet Jupiter, would become limited to certain zones, in which they would remain invariable. But even if he had understood the *rationale* of the change, the convulsion that had brought it about would have been as much a mystery as ever.

The precocity of vegetation caused some embarrassment. The time for the corn and fruit harvest had fallen simultaneously with that of the hay making; and as the extreme heat precluded any prolonged exertions, it was evident "the population" of the island would find it difficult to provide the necessary amount of labor. Not that the prospect gave them much concern: the provisions of the gourbi were still far from exhausted, and now that the roughness of the weather had so happily subsided, they had every encouragement to hope that a ship of some sort would soon appear. Not only was that part of the Mediterranean systematically frequented by the government steamers that watched the coast, but vessels of all nations were constantly cruising off the shore.

In spite, however, of all their sanguine speculations, no ship appeared. Ben Zoof admitted the necessity of extemporizing a kind of parasol for himself, otherwise he must literally have been roasted to death upon the exposed summit of the cliff.

Meanwhile, Servadac was doing his utmost—it must be acknowledged, with indifferent success—to recall the lessons of his school-days. He would plunge into the wildest speculations in his endeavors to unravel the difficulties of the new situation, and struggled into a kind of conviction that if there had been a change of manner in the earth's rotation on her axis, there would be a corresponding change in her revolution round the sun, which would involve the consequence of the length of the year being either diminished or increased.

Independently of the increased and increasing heat, there was another very conclusive demonstration that the earth had thus suddenly approached nearer to the sun. The diameter of the solar disc was now exactly twice what it ordinarily looks to the naked eye; in fact, it was precisely such as it would appear to an observer on the surface of the planet Venus. The most obvious inference would therefore be that the earth's distance from the sun had been diminished from 91,000,000 to 66,000,000

miles. If the just equilibrium of the earth had thus been destroyed, and should this diminution of distance still continue, would there not be reason to fear that the terrestrial world would be carried onwards to actual contact with the sun, which must result in its total annihilation?

The continuance of the splendid weather afforded Servadac every facility for observing the heavens. Night after night, constellations in their beauty lay stretched before his eyes—an alphabet which, to his mortification, not to say his rage, he was unable to decipher. In the apparent dimensions of the fixed stars, in their distance, in their relative position with regard to each other, he could observe no change. Although it is established that our sun is approaching the constellation of Hercules at the rate of more than 126,000,000 miles a year, and although Arcturus is traveling through space at the rate of fifty-four miles a second—three time faster than the earth goes round the sun,—yet such is the remoteness of those stars that no appreciable change is evident to the senses. The fixed stars taught him nothing.

Far otherwise was it with the planets. The orbits of Venus and Mercury are within the orbit of the earth, Venus rotating at an average distance of 66,130,000 miles from the sun, and Mercury at that of 35,393,000. After pondering long, and as profoundly as he could, upon these figures, Captain Servadac came to the conclusion that, as the earth was now receiving about double the amount of light and heat that it had been receiving before the catastrophe, it was receiving about the same as the planet Venus; he was driven, therefore, to the estimate of the measure in which the earth must have approximated to the sun, a deduction in which he was confirmed when the opportunity came for him to observe Venus herself in the splendid proportions that she now assumed.

That magnificent planet which—as Phosphorus or Lucifer, Hesperus or Vesper, the evening star, the morning star, or the shepherd's star—has never failed to attract the rapturous admiration of the most indifferent observers, here revealed herself with unprecedented glory, exhibiting all the phases of a lustrous moon in miniature. Various indentations in the outline of its crescent showed that the solar beams were refracted into regions of its surface where the sun had already set, and proved, beyond a doubt, that the planet had an atmosphere of her own; and certain luminous points projecting from the crescent as plainly marked the existence of mountains. As the result of Servadac's computations he formed the opinion that Venus could hardly be at a greater distance than 6,000,000 miles from the earth.

"And a very safe distance, too," said Ben Zoof, when his master told him the conclusion at which he had arrived.

"All very well for two armies, but for a couple of planets not quite so safe, perhaps, as you may imagine. It is my impression that it is more than likely we may run foul of Venus," said the captain.

"Plenty of air and water there, sir?" inquired the orderly.

"Yes; as far as I can tell, plenty," replied Servadac.

"Then why shouldn't we go and visit Venus?"

Servadac did his best to explain that as the two planets were of about equal volume, and were traveling with great velocity in opposite directions, any collision between them must be attended with the most disastrous consequences to one or both of them. But Ben Zoof failed to see that, even at the worst, the catastrophe could be much more serious than the collision of two railway trains.

The captain became exasperated. "You idiot!" he angrily exclaimed; "cannot you understand that the planets are traveling a thousand times faster than the fastest express, and that if they meet, either one or the other must be destroyed? What would become of your darling Montmartre then?"

The captain had touched a tender chord. For a moment Ben Zoof stood with clenched teeth and contracted muscles; then, in a voice of real concern, he inquired whether anything could be done to avert the calamity.

"Nothing whatever; so you may go about your own business," was the captain's brusque rejoinder.

All discomfited and bewildered, Ben Zoof retired without a word.

During the ensuing days the distance between the two planets continued to decrease, and it became more and more obvious that the earth, on her new orbit, was about to cross the orbit of Venus. Throughout this time the earth had been making a perceptible approach towards Mercury, and that planet—which is rarely visible to the naked eye, and then only at what are termed the periods of its greatest eastern and western elongations—now appeared in all its splendor. It amply justified the epithet of "sparkling" which the ancients were accustomed to confer upon it, and could scarcely fail to awaken a new interest. The periodic recurrence of its phases; its reflection of the sun's rays, shedding upon it a light and a heat seven times greater than that received by the earth; its glacial and its torrid zones, which, on account of the great inclination of the axis, are scarcely separable; its equatorial bands; its mountains eleven miles high; —were all subjects of observation worthy of the most studious regard.

But no danger was to be apprehended from Mercury; with Venus only did collision appear imminent. By the 18th of January the distance between that planet and the earth had become reduced to between two and three millions of miles, and the intensity of its light cast heavy shadows from all terrestrial objects. It might be observed to turn upon its own axis in twenty-three hours twenty-one minutes—an evidence, from the unaltered duration of its days, that the planet had not shared in the disturbance. On its disc the clouds formed from its atmospheric vapor were plainly perceptible, as also were the seven spots, which, according to Bianchini, are a chain of seas. It was now visible in broad daylight. Bonaparte, when under the Directory, once had his attention called to Venus at noon, and immediately hailed it joyfully, recognizing it as his own peculiar star in the ascendant. Captain Servadac, it may well be imagined, did not experience the same gratifying emotion.

On the 20th, the distance between the two bodies had again sensibly diminished. The captain had ceased to be surprised that no vessel had been sent to rescue himself and his companion from their strange imprisonment; the governor general and the minister of war were doubtless far differently

occupied, and their interests far otherwise engrossed. What sensational articles, he thought, must now be teeming to the newspapers! What crowds must be flocking to the churches! The end of the world approaching! the great climax close at hand! Two days more, and the earth, shivered into a myriad atoms, would be lost in boundless space!

These dire forebodings, however, were not destined to be realized. Gradually the distance between the two planets began to increase; the planes of their orbits did not coincide, and accordingly the dreaded catastrophe did not ensue. By the 25th, Venus was sufficiently remote to preclude any further fear of collision. Ben Zoof gave a sigh of relief when the captain communicated the glad intelligence.

Their proximity to Venus had been close enough to demonstrate that beyond a doubt that planet has no moon or satellite such as Cassini, Short, Montaigne of Limoges, Montbarron, and some other astronomers have imagined to exist. "Had there been such a satellite," said Servadac, "we might have captured it in passing. But what can be the meaning," he added seriously, "of all this displacement of the heavenly bodies?"

"What is that great building at Paris, captain, with a top like a cap?" asked Ben Zoof.

"Do you mean the Observatory?"

"Yes, the Observatory. Are there not people living in the Observatory who could explain all this?"

"Very likely; but what of that?"

"Let us be philosophers, and wait patiently until we can hear their explanation."

Servadac smiled. "Do you know what it is to be a philosopher, Ben Zoof?" he asked.

"I am a soldier, sir," was the servant's prompt rejoinder, "and I have learnt to know that 'what can't be cured must be endured.'"

The captain made no reply, but for a time, at least, he desisted from puzzling himself over matters which he felt he was utterly incompetent to explain. But an event soon afterwards occurred which awakened his keenest interest.

About nine o'clock on the morning of the 27th, Ben Zoof walked deliberately into his master's apartment, and, in reply to a question as to what he wanted, announced with the utmost composure that a ship was in sight.

"A ship!" exclaimed Servadac, starting to his feet. "A ship! Ben Zoof, you donkey! you speak as unconcernedly as though you were telling me that my dinner was ready."

"Are we not philosophers, captain?" said the orderly.

But the captain was out of hearing.

CHAPTER IX

INQUIRIES UNSATISFIED

Fast as his legs could carry him, Servadac had made his way to the top of the cliff. It was quite true that a vessel was in sight, hardly more than six miles from the shore; but owing to the increase in the earth's convexity, and the consequent limitation of the range of vision, the rigging of the topmasts alone was visible above the water. This was enough, however, to indicate that the ship was a schooner—an impression that was confirmed when, two hours later, she came entirely in sight.

"The *Dobryna!*" exclaimed Servadac, keeping his eye unmoved at his telescope.

"Impossible sir!" rejoined Ben Zoof; "there are no signs of smoke.

"The *Dobryna!*" repeated the captain, positively. "She is under sail; but she is Count Timascheff's yacht."

He was right. If the count were on board, a strange fatality was bringing him to the presence of his rival. But no longer now could Servadac regard him in the light of an adversary; circumstances had changed, and all animosity was absorbed in the eagerness with which he hailed the prospect of obtaining some information about the recent startling and inexplicable events. During the twenty-seven days that she had been absent, the *Dobryna*, he conjectured, would have explored the Mediterranean, would very probably have visited Spain, France, or Italy, and accordingly would convey to Gourbi Island some intelligence from one or other of those countries. He reckoned, therefore, not only upon ascertaining the extent of the late catastrophe, but upon learning its cause. Count Timascheff was, no doubt, magnanimously coming to the rescue of himself and his orderly.

The wind being adverse, the *Dobryna* did not make very rapid progress; but as the weather, in spite of a few clouds, remained calm, and the sea was quite smooth, she was enabled to hold a steady course. It seemed unaccountable that she should not use her engine, as whoever was on board, would be naturally impatient to reconnoiter the new island, which must just have come within their view. The probability that suggested itself was that the schooner's fuel was exhausted.

Servadac took it for granted that the *Dobryna* was endeavoring to put in. It occurred to him, however, that the count, on discovering an island where he had expected to find the mainland of Africa, would not unlikely be at a loss for a place of anchorage. The yacht was evidently making her way in the direction of the former mouth of the Shelif, and the captain was struck with the idea that he would do well to investigate whether there was any suitable harbor towards which he might signal her. Zephyr and Gallette were soon saddled, and in twenty minutes had carried their riders to the western extremity of the island, where they both dismounted and began to explore the coast.

They were not long in ascertaining that on the farther side of the point there was a small well-sheltered creek of sufficient depth to accommodate a vessel of moderate tonnage. A narrow channel formed a passage through the ridge of rocks that protected it from the open sea, and which, even in the roughest weather, would ensure the calmness of its waters.

Whilst examining the rocky shore, the captain observed, to his great surprise, long and well-defined rows of seaweed, which undoubtedly betokened that there had been a very considerable ebb and flow of the waters—a thing unknown in the Mediterranean, where there is scarcely any perceptible tide. What, however, seemed most remarkable, was the manifest evidence that ever since the highest flood (which was caused, in all probability, by the proximity of the body of which the huge disc had been so conspicuous on the night of the 31st of December) the phenomenon had been gradually lessen-

ing, and in fact was now reduced to the normal limits which had characterized it before the convulsion.

Without doing more than note the circumstance, Servadac turned his entire attention to the *Dobryna*, which, now little more than a mile from shore, could not fail to see and understand his signals. Slightly changing her course, she first lowered her mainsail, and, in order to facilitate the movements of her helmsman, soon carried nothing but her two topsails, brigantine and jib. After rounding the peak, she steered direct for the channel to which Servadac by his gestures was pointing her, and was not long in entering the creek. As soon as the anchor, imbedded in the sandy bottom, had made good its hold, a boat was lowered. In a few minutes more Count Timascheff had landed on the island. Captain Servadac hastened towards him.

"First of all, count," he exclaimed impetuously, "before we speak one other word, tell me what has happened."

The count, whose imperturbable composure presented a singular contrast to the French officer's enthusiastic vivacity, made a stiff bow, and in his Russian accent replied: "First of all, permit me to express my surprise at seeing you here. I left you on a continent, and here I have the honor of finding you on an island."

"I assure you, count, I have never left the place."

"I am quite aware of it, Captain Servadac, and I now beg to offer you my sincere apologies for failing to keep my appointment with you."

"Never mind, now," interposed the captain; "we will talk of that by-and-by. First, tell me what has happened."

"The very question I was about to put to you, Captain Servadac."

"Do you mean to say you know nothing of the cause, and can tell me nothing of the extent, of the catastrophe which has transformed this part of Africa into an island?"

"Nothing more than you know yourself."

"But surely, Count Timascheff, you can inform me whether upon the northern shore of the Mediterranean——"

"Are you certain that this is the Mediterranean?" asked the count significantly, and added, "I have discovered no sign of land."

The captain stared in silent bewilderment. For some moments he seemed perfectly stupefied; then, recovering himself, he began to overwhelm the count with a torrent of questions. Had he noticed, ever since the 1st of January, that the sun had risen in the west? Had he noticed that the days had been only six hours long, and that the weight of the atmosphere was so much diminished? Had he observed that the moon had quite disappeared, and that the earth had been in imminent hazard of running foul of the planet Venus? Was he aware, in short, that the entire motions of the terrestrial sphere had undergone a complete modification? To all these inquiries, the count responded in the affirmative. He was acquainted with everything that had transpired; but, to Servadac's increasing astonishment, he could throw no light upon the cause of any of the phenomena.

"On the night of the 31st of December," he said, "I was proceeding by sea to our appointed place of meeting, when my yacht was suddenly caught on the crest of an enormous wave, and carried to a height which it is beyond my power to estimate. Some mysterious force seemed to have brought about a convulsion of the elements. Our engine was damaged, nay disabled, and we drifted entirely at the mercy of the terrible hurricane that raged during the succeeding days. That the *Dobryna* escaped at all is little less than a miracle, and I can only attribute her safety to the fact that she occupied the center of the vast cyclone, and consequently did not experience much change of position."

He paused, and added: "Your island is the first land we have seen."

"Then let us put out to sea at once and ascertain the extent of the disaster," cried the captain eagerly. "You will take me on board, count, will you not?"

"My yacht is at your service, sir, even should you require to make a tour round the world."

"A tour round the Mediterranean will suffice for the present, I think," said the captain, smiling.

The count shook his head.

"I am not sure," said he, "but what the tour of the Mediterranean will prove to be the tour of the world."

Servadac made no reply, but for a time remained silent and absorbed in thought.

After the silence was broken, they consulted as to what course was best to pursue; and the plan they proposed was, in the first place, to discover how much of the African coast still remained, and to carry on the tidings of their own experiences to Algiers; or, in the event of the southern shore having actually disappeared, they would make their way northwards and put themselves in communication with the population on the southern shores of Europe.

Before starting, it was indispensable that the engine of the *Dobryna* should be repaired: to sail under canvas only would in contrary winds and rough seas be both tedious and difficult. The stock of coal on board was adequate for two months' consumption; but as it would at the expiration of that time be exhausted, it was obviously the part of prudence to employ it in reaching a port where fuel could be replenished.

The damage sustained by the engine proved to be not very serious; and in three days after her arrival the *Dobryna* was again ready to put to sea.

Servadac employed the interval in making the count acquainted with all he knew about his small domain. They made an entire circuit of the island, and both agreed that it must be beyond the limits of that circumscribed territory that they must seek an explanation of what had so strangely transpired.

It was on the last day of January that the repairs of the schooner were completed. A slight diminution in the excessively high temperature which had prevailed for the last few weeks, was the only apparent change in the general order of things; but whether this was to be attributed to any alteration in the earth's orbit was a question which would still require several days to decide. The weather remained fine, and although a few clouds had accumulated, and might have caused a trifling fall of the barometer, they were not sufficiently threatening to delay the departure of the *Dobryna*.

Doubts now arose, and some discussion followed,

whether or not it was desirable for Ben Zoof to accompany his master. There were various reasons why he should be left behind, not the least important being that the schooner had no accommodation for horses, and the orderly would have found it hard to part with Zephyr, and much more with his own favorite Galette; besides, it was advisable that there should be some one left to receive any strangers that might possibly arrive, as well as to keep an eye upon the herds of cattle which, in the dubious prospect before them, might prove to be the sole resource of the survivors of the catastrophe. Altogether, taking into consideration that the grave fellow would incur no personal risk by remaining upon the island, the captain was induced with much reluctance to forego the attendance of his servant, hoping very shortly to return and to restore him to his country, when he had ascertained the solution of the mysteries in which they were enveloped.

On the 31st, then, Ben Zoof was "invested with governor's powers," and took an affecting leave of his master, begging him, if chance should carry him near Montmartre, to ascertain whether the beloved "mountain" had been left unmoved.

Farewells over, the *Dobryna* was carefully steered through the creek, and was soon upon the open seas.

CHAPTER X

A SEARCH FOR ALGERIA

The *Dobryna*, a strong craft of 200 tons burden, had been built in the famous shipbuilding yards of the Isle of Wight. Her sea-going qualities were excellent, and would have amply sufficed for a circumnavigation of the globe.

Count Timascheff was himself no sailor, but had the greatest confidence in leaving the command of his yacht in the hands of Lieutenant Procope, a man of about thirty years of age, and an excellent seaman. Born on the count's estates, the son of a serf who had been emancipated long before the famous edict of the Emperor Alexander, Procope was sincerely attached, by a tie of gratitude as well as of duty and affection, to his patron's service. After an apprenticeship on a merchant ship he had entered the imperial navy, and had already reached the rank of lieutenant when the count appointed him to the charge of his own private yacht, in which he was accustomed to spend by far the greater part of his time, throughout the winter generally cruising in the Mediterranean, whilst in the summer he visited more northern waters.

The ship could not have been in better hands. The lieutenant was well informed in many matters outside the pale of his profession, and his attainments were alike creditable to himself and to the liberal friend who had given him his education. He had an excellent crew, consisting of Tiglew, the engineer, four sailors named Niegoch, Tolstoy, Etkef, and Ponafka, and Mochel the cook. These men, without exception, were all sons of the count's tenants, and so tenaciously, even out at sea, did they cling to their old traditions, that it mattered little to them what physical disorganization ensued, so long as they felt they were sharing the experiences of their lord and master. The late astounding events, however, had rendered Procope manifestly uneasy, and not the less so from his consciousness that the count secretly partook of his own anxiety.

Steam up and canvas spread, the schooner started eastward. With a favorable wind she would certainly have made eleven knots an hour had not the high waves somewhat impeded her progress. Although only a moderate breeze was blowing, the sea was rough, a circumstance to be accounted for only by the diminution in the force of the earth's attraction rendering the liquid particles so buoyant, that by the mere effect of oscillation they were carried to a height that was quite unprecedented. M. Arago has fixed twenty-five or twenty-six feet as the maximum elevation ever attained by the highest waves, and his astonishment would have been very great to see them rising fifty or even sixty feet. Nor did these waves in the usual way partially unfurl themselves and rebound against the sides of the vessel; they might rather be described as long undulations carrying the schooner (its weight diminished from the same cause as that of the water) alternately to such heights and depths, that if Captain Servadac had been subject to seasickness he must have found himself in sorry plight. As the pitching, however, was the result of a long uniform swell, the yacht did not labor much harder than she would against the ordinary short strong waves of the Mediterranean; the main inconvenience that was experienced was the diminution in her proper rate of speed.

For a few miles she followed the line hitherto presumably occupied by the coast of Algeria; but no land appeared to the south. The changed positions of the planets rendered them of no avail for purposes of nautical observation, nor could Lieutenant Procope calculate his latitude and longitude by the altitude of the sun, as his reckonings would be useless when applied to charts that had been constructed for the old order of things; but nevertheless, by means of the log, which gave him the rate of progress, and by the compass which indicated the direction in which they were sailing, he was able to form an estimate of his position that was sufficiently free from error for his immediate need.

Happily the recent phenomena had no effect upon the compass; the magnetic needle, which in these regions had pointed about 22° from the north pole, had never deviated in the least—a proof that, although east and west had apparently changed places, north and south continued to retain their normal position as cardinal points. The log and the compass, therefore, were now to be called upon to do the work of the sextant and chronometer, which had become utterly useless.

On the first morning of the cruise Lieutenant Procope, who, like most Russians, spoke French fluently, was explaining these peculiarities to Captain Servadac; the count was present, and the conversation perpetually recurred, as naturally it would, to the phenomena which remained so inexplicable to them all.

"It is very evident," said the lieutenant, "that ever since the 1st of January the earth has been moving in a new orbit, and from some unknown cause has drawn nearer to the sun."

"No doubt about that," said Servadac; " and I suppose that, having crossed the orbit of Venus, we

have a good chance of running into the orbit of Mercury."

"And finish up by a collision with the sun!" added the count.

"There is no fear of that," sir. The earth has undoubtedly entered upon a new orbit, but she is not incurring any probable risk of being precipitated into the sun."

"Can you satisfy us of that?" asked the count.

"I can, sir. I can give you a proof which I think you will own is conclusive. If, as you suppose, the earth is being drawn on so as to be precipitated against the sun, the great center of attraction of our system, it could only be because the centrifugal and centripetal forces that cause the planets to rotate in their several orbits had been entirely suspended: in that case, indeed, the earth would rush onwards towards the sun, and in sixty-four days and a half the catastrophe you dread would inevitably happen."

"And what demonstration do you offer," asked Servadac eagerly, "that it will not happen?"

"Simply this, captain: that since the earth entered her new orbit half the sixty-four days has already elapsed, and yet it is only just recently that she has crossed the orbit of Venus, hardly one-third of the distance to be traversed to reach the sun."

The lieutenant paused to allow time for reflection, and added: "Moreover, I have every reason to believe that we are not so near the sun as we have been. The temperature has been gradually diminishing; the heat upon Gourbi Island is not greater now than we might ordinarily expect to find in Algeria. At the same time, we have the problem still unsolved that the Mediterranean has evidently been transported to the equatorial zone."

Both the count and the captain expressed themselves reassured by his representations, and observed that they must now do all in their power to discover what had become of the vast continent of Africa, of which, they were hitherto failing so completely to find a vestige.

Twenty-four hours after leaving the island, the *Dobryna* had passed over the sites where Tenes, Cherchil, Koleah, and Sidi-Feruch once had been, but of these towns not one appeared within range of the telescope. Ocean reigned supreme. Lieutenant Procope was absolutely certain that he had not mistaken his direction; the compass showed that the wind had never shifted from the west, and this, with the rate of speed as estimated by the log, combined to assure him that at this date, the 2nd of February, the schooner was in lat. 36° 49′ N. and long. 3° 25′ E., the very spot which ought to have been occupied by the Algerian capital. But Algiers, like all the other coast-towns, had apparently been absorbed into the bowels of the earth.

Captain Servadac, with clenched teeth and knitted brow, stood sternly, almost fiercely, regarding the boundless waste of water. His pulse beat fast as he recalled the friends and comrades with whom he had spent the last few years in that vanished city. All the images of his past life floated upon his memory; his thoughts sped away to his native France, only to return again to wonder whether the depths of ocean would reveal any traces of the Algerian metropolis.

"Is it not impossible," he murmured aloud, "that any city should disappear so completely? Would not the loftiest eminences of the city at least be visible? Surely some portion of the Casbah must still rise above the waves? The imperial fort, too, was built upon an elevation of 750 feet; it is incredible that it should be so totally submerged. Unless some vestiges of these are found, I shall begin to suspect that the whole of Africa has been swallowed in some vast abyss."

Another circumstance was most remarkable. Not a material object of any kind was to be noticed floating on the surface of the water; not one branch of a tree had been seen drifting by, nor one spar belonging to one of the numerous vessels that a month previously had been moored in the magnificent bay which stretched twelve miles across from Cape Matafuz to Point Pexade. Perhaps the depths might disclose what the surface failed to reveal, and Count Timascheff, anxious that Servadac should have every facility afforded him for solving his doubts, called for the sounding-line. Forthwith, the lead was greased and lowered. To the surprise of all, and especially of Lieutenant Procope, the line indicated a bottom at a nearly uniform depth of from four to five fathoms; and although the sounding was persevered with continuously for more than two hours over a considerable area, the differences of level were insignificant, not corresponding in any degree to what would be expected over the site of a city that had been terraced like the seats of an amphitheater. Astounding as it seemed, what alternative was left but to suppose that the Algerian capital had been completely leveled by the flood?

The sea-bottom was composed of neither rock, mud, sand, nor shells; the sounding-lead brought up nothing but a kind of metallic dust, which glittered with a strange iridescence, and the nature of which it was impossible to determine, as it was totally unlike what had ever been known to be raised from the bed of the Mediterranean.

"You must see, lieutenant, I should think, that we are not so near the coast of Algeria as you imagined."

The lieutenant shook his head. After pondering awhile, he said: "If we were farther away I should expect to find a depth of two or three hundred fathoms instead of five fathoms. Five fathoms! I confess I am puzzled."

For the next thirty-six hours, until the 4th of February, the sea was examined and explored with the most unflagging perseverance. Its depth remained invariable, still four, or at most five, fathoms; and although its bottom was assiduously dredged, it was only to prove it barren of marine production of any type.

The yacht made its way to lat. 36° north, by reference to the charts it was tolerably certain that she was cruising over the site of the Sahel, the ridge that had separated the rich plain of the Mitidja from the sea, and of which the highest peak, Mount Bourjerah, had reached an altitude of 1,200 feet; but even this peak, which might have been expected to emerge like an islet above the surface of the sea, was nowhere to be traced. Nothing was to be done but to put about, and return in disappointment towards the north.

Thus the *Dobryna* regained the waters of the Mediterranean without discovering a trace of the missing province of Algeria.

CHAPTER XI

AN ISLAND TOMB

No longer then, could there be any doubt as to the annihilation of a considerable portion of the colony. Not merely had there been a submersion of the land, but the impression was more and more confirmed that the very bowels of the earth must have yawned and closed again upon a large territory. Of the rocky substratum of the province it became more evident than ever that not a trace remained, and a new soil of unknown formation had certainly taken the place of the old sandy sea-bottom. As it altogether transcended the powers of those on board to elucidate the origin of this catastrophe, it was felt to be incumbent on them at least to ascertain its extent.

After a long and somewhat wavering discussion, it was at length decided that the schooner should take advantage of the favorable wind and weather, and proceed at first towards the east, thus following the outline of what had formerly represented the coast of Africa, until that coast had been lost in boundless sea.

Not a vestige of it all remained; from Cape Matafuz to Tunis it had all gone, as though it had never been. The maritime town of Dellis, built like Algiers, amphitheater-wise, had totally disappeared; the highest points were quite invisible; not a trace on the horizon was left of the Jurjura chain, the topmost point of which was known to have an altitude of more than 7,000 feet.

Unsparing of her fuel, the *Dobryna* made her way at full steam towards Cape Blanc. Neither Cape Negro nor Cape Serrat was to be seen. The town of Bizerta, once charming in its oriental beauty, had vanished utterly; its marabouts, or temple-tombs, shaded by magnificent palms that fringed the gulf, which by reason of its narrow mouth had the semblance of a lake, all had disappeared, giving place to a vast waste of sea, the transparent waters of which, as still demonstrated by the sounding-line, had ever the same uniform and arid bottom.

In the course of the day the schooner rounded the point where, five weeks previously, Cape Blanc had been so conspicuous an object, and she was now stemming the waters of what once had been the Bay of Tunis. But bay there was none, and the town from which it had derived its name, with the Arsenal, the Goletta, and the two peaks of Bou-Kournein, had all vanished from the view. Cape Bon, too, the most northern promontory of Africa and the point of the continent nearest to the island of Sicily, had been included in the general devastation.

Before the occurrence of the recent prodigy, the bottom of the Mediterranean just at this point had formed a sudden ridge across the Straits of Libya. The sides of the ridge had shelved to so great an extent that, while the depth of water on the summit had been little more than eleven fathoms, that on either hand of the elevation was little short of a hundred fathoms. A formation such as this plainly indicated that at some remote epoch Cape Bon had been connected with Cape Furina, the extremity of Sicily, in the same manner as Ceuta has doubtless been connected with Gibraltar.

Lieutenant Procope was too well acquainted with the Mediterranean to be unaware of this peculiarity, and would not lose the opportunity of ascertaining whether the submarine ridge still existed, or whether the sea-bottom between Sicily and Africa had undergone any modification.

Both Timascheff and Servadac were much interested in watching the operations. At a sign from the lieutenant, a sailor who was stationed at the foot of the fore-shrouds dropped the sounding-lead into the water, and in reply to Procope's inquiries, reported—"Five fathoms and a flat bottom."

The next aim was to determine the amount of depression on either side of the ridge, and for this purpose the *Dobryna* was shifted for a distance of half a mile both to the right and left, and the soundings taken at each station. "Five fathoms and a flat bottom," was the unvaried announcement after each operation. Not only, therefore, was it evident that the submerged chain between Cape Bon and Cape Furina no longer existed, but it was equally clear that the convulsion had caused a general leveling of the sea-bottom, and that the soil, degenerated, as it has been said, into a metallic dust of unrecognized composition, bore no trace of the sponges, sea-anemones, star-fish, sea-nettles, hydrophytes, and shells with which the submarine rocks of the Mediterranean had hitherto been prodigally clothed.

The *Dobryna* now put about and resumed her explorations in a southerly direction. It remained, however, as remarkable as ever how completely throughout the voyage the sea continued to be deserted; all expectations of hailing a vessel bearing news from Europe were entirely falsified, so that more and more each member of the crew began to be conscious of his isolation, and to believe that the schooner, like a second Noah's ark, carried the sole survivors of a calamity that had overwhelmed the earth.

On the 9th of February the *Dobryna* passed over the site of the city of Dido, the ancient Byrsa—a Carthage, however, which was now more completely annihilated than ever Punic Carthage had been destroyed by Scipio Africanus or Roman Carthage by Hassan the Saracen.

In the evening, as the sun was sinking below the eastern horizon, Captain Servadac was lounging moodily against the taffrail. From the heaven above, where stars kept peeping fitfully from behind the moving clouds, his eye wandered mechanically to the waters below, where the long waves were rising and falling with the evening breeze.

All at once, his attention was arrested by a luminous speck straight ahead on the southern horizon. At first, imagining that he was the victim of some spectral illusion, he observed it with silent attention; but when, after some minutes, he became convinced that what he saw was actually a distant light, he appealed to one of the sailors, by whom his impression was fully corroborated. The intelligence was immediately imparted to Count Timascheff and the lieutenant.

"Is it land, do you suppose?" inquired Servadac, eagerly.

"I should be more inclined to think it is a light on board some ship," replied the count.

"Whatever it is, in another hour we shall know all about it," said Servadac.

"No, captain," interposed Lieutenant Procope; "we shall know nothing until to-morrow."

"What! not bear down upon it at once?" asked the count in surprise.

"No, sir; I should much rather lie to and wait till daylight. If we are really near land, I should be afraid to approach it in the dark."

The count expressed his approval of the lieutenant's caution, and thereupon all sail was shortened so as to keep the *Dobryna* from making any considerable progress all through the hours of night. Few as those hours were, they seemed to those on board as if their end would never come. Fearful lest the faint glimmer should at any moment cease to be visible, Hector Servadac did not quit his post upon the deck; but the light continued unchanged. It shone with about the same degree of luster as a star of the second magnitude, and from the fact of its remaining stationary, Procope became more and more convinced that it was on land and did not belong to a passing vessel.

At sunrise every telescope was pointed with keenest interest towards the center of attraction. The light, of course, had ceased to be visible, but in the direction where it had been seen, and at a distance of about ten miles, there was the distinct outline of a solitary island of very small extent; rather, as the count observed, it had the appearance of being the projecting summit of a mountain all but submerged. Whatever it was, it was agreed that its true character must be ascertained, not only to gratify their own curiosity, but for the benefit of all future navigators. The schooner accordingly was steered directly towards it, and in less than an hour had cast anchor within a few cables' lengths of the shore.

The little island proved to be nothing more than an arid rock rising abruptly about forty feet above the water. It had no outlying reefs, a circumstance that seemed to suggest the probability that in the recent convulsion it had sunk gradually, until it had reached its present position of equilibrium.

Without removing his eye from his telescope, Servadac exclaimed: "There is a habitation on the place; I can see an erection of some kind quite distinctly. Who can tell whether we shall not come across a human being?"

Lieutenant Procope looked doubtful. The island had all the appearance of being deserted, nor did a cannon-shot fired from the schooner have the effect of bringing any resident to the shore. Nevertheless, it was undeniable that there was a stone building situated on the top of the rock, and that this building had much the character of an Arabian mosque.

The boat was lowered and manned by the four sailors; Servadac, Timascheff and Procope were quickly rowed ashore, and lost no time in commencing their ascent of the steep acclivity. Upon reaching the summit, they found their progress arrested by a kind of wall, or rampart of singular construction, its materials consisting mainly of vases, fragments of columns, carved bas-reliefs, statues, and portions of broken stelæ, all piled promiscuously together without any pretense to artistic arrangement. They made their way into the enclosure, and finding an open door, they passed through and soon came to a second door, also open, which admitted them to the interior of the mosque, consisting of a single chamber, the walls of which were ornamented in the Arabian style by sculptures of indifferent execution. In the center was a tomb of the very simplest kind, and above the tomb was suspended a large silver lamp with a capacious reservoir of oil, in which floated a long lighted wick, the flame of which was evidently the light that had attracted Servadac's attention on the previous night.

"Must there not have been a custodian of the shrine?" they mutually asked; but if such there had ever been, he must, they concluded, either have fled or have perished on that eventful night. Not a soul was there in charge, and the sole living occupants were a flock of wild cormorants which, startled at the entrance of the intruders, rose on wing, and took a rapid flight towards the south.

An old French prayer-book was lying on the corner of the tomb; the volume was open, and the page exposed to view was that which contained the office for the celebration of the 25th of August. A sudden revelation dashed across Servadac's mind. The solemn isolation of the island tomb, the open breviary, the ritual of the ancient anniversary, all combined to apprise him of the sanctity of the spot upon which he stood.

"The tomb of St. Louis!" he exclaimed, and his companions involuntarily followed his example, and made a reverential obeisance to the venerated monument.

It was, in truth, the very spot on which tradition asserts that the canonized monarch came to die, a spot to which for six centuries and more his countrymen had paid the homage of a pious regard. The lamp that had been kindled at the memorial shrine of a saint was now in all probability the only beacon that threw a light across the waters of the Mediterranean, and even this ere long must itself expire.

There was nothing more to explore. The three together quitted the mosque, and descended the rock to the shore, whence their boat re-conveyed them to the schooner, which was soon again on her southward voyage; and it was not long before the tomb of St. Louis, the only spot that had survived the mysterious shock, was lost to view.

CHAPTER XII

AT THE MERCY OF THE WINDS

As the affrighted cormorants had winged their flight towards the south, there sprang up a sanguine hope on board the schooner that land might be discovered in that direction. Thither, accordingly, it was determined to proceed, and in a few hours after quitting the island of the tomb, the *Dobryna* was traversing the shallow waters that now covered the peninsula of Dakhul, which had separated the Bay of Tunis from the Gulf of Hammamet. For two days she continued an undeviating course, and after a futile search for the coast of Tunis, reached the latitude of 34° north.

Here, on the 11th of February, there suddenly arose the cry of "Land!" and in the extreme horizon, right ahead, where land had never been before, it was true enough that a shore was distinctly to be seen. What could it be? It could not be the coast of Tripoli; for not only would that low-lying shore be quite invisible at such a distance, but it was certain, moreover, that it lay two degrees at least still further south. It was soon observed that this

newly discovered land was of very irregular elevation, that it extended due east and west across the horison, thus dividing the gulf into two separate sections and completely concealing the island of Jerba, which must lie behind. Its position was duly traced on the *Dobryna's* chart.

"How strange," exclaimed Hector Servadac, "that after sailing all this time over sea where we expected to find land, we have at last come upon land where we thought to find sea!"

"Strange, indeed," replied Lieutenant Procope; "and what appears to me almost as remarkable is that we have never once caught sight either of one of the Maltese tartans or one of the Levantine xebecs that traffic so regularly on the Mediterranean."

"Eastwards or westwards," asked the count—"which shall be our course? All farther progress to the south is checked."

"Westwards," by all means," replied Servadac quickly. "I am longing to know whether anything of Algeria is left beyond the Shelif; besides, as we pass Gourbi Island we might take Ben Zoof on board, and then make away for Gibraltar, where we should be sure to learn something, at least, of European news."

With his usual air of stately courtesy, Count Timascheff begged the captain to consider the yacht at his own disposal, and desired him to give the lieutenant instructions accordingly.

Lieutenant Procope, however, hesitated, and after revolving matters for a few moments in his mind, pointed out that as the wind was blowing directly from the west, and seemed likely to increase, if they went to the west in the teeth of the weather, the schooner would be reduced to the use of her engine only, and would have much difficulty in making good headway; on the other hand, by taking an eastward course, not only would they have the advantage of the wind, but, under steam and canvas might hope in a few days to be off the coast of Egypt, and from Alexandria or some other port they would have the same opportunity of getting tidings from Europe as they would at Gibraltar.

Intensely anxious as he was to revisit the province of Oran, and eager, too, to satisfy himself of the welfare of his faithful Ben Zoof, Servadac could not but own the reasonableness of the lieutenant's objections, and yielded to the proposal that the eastward course should be adopted. The wind gave signs, only too threatening, of the breeze rising to a gale; but, fortunately, the waves did not culminate in combers, but rather in a long swell which ran in the same direction as the vessel.

During the last fortnight the high temperature had been gradually diminishing, until it now reached an average of 20° Cent. (or 68° Fahr.), and sometimes descended as low as 15°. That this diminution was to be attributed to the change in the earth's orbit was a question that admitted of little doubt. After approaching so near to the sun as to cross the orbit of Venus, the earth must now have receded so far from the sun that its normal distance of ninety-one millions of miles was greatly increased, and the probability was great that it was approximating to the orbit of Mars, that planet which in its physical constitution most nearly resembles our own. Nor was this supposition suggested merely by the lowering of the temperature; it was strongly corroborated by the reduction of the apparent diameter of the sun's disc to the precise dimensions which it would assume to an observer actually stationed on the surface of Mars. The necessary inference that seemed to follow from these phenomena was that the earth had been projected into a new orbit, which had the form of a very elongated ellipse.

Very slight, however, in comparison was the regard which these astronomical wonders attracted on board the *Dobryna*. All interest there was too much absorbed in terrestrial matters, and in ascertaining what changes had taken place in the configuration of the earth itself, to permit much attention to be paid to its erratic movements through space.

The schooner kept bravely on her way, but well out to sea, at a distance of two miles from land. There was good need of this precaution, for so precipitous was the shore that a vessel driven upon it must inevitably have gone to pieces; it did not offer a single harbor of refuge, but, smooth and perpendicular as the walls of a fortress, it rose to a height of two hundred, and occasionally of three hundred feet. The waves dashed violently against its base. Upon the general substratum rested a massive conglomerate, the crystallizations of which rose like a forest of gigantic pyramids and obelisks.

But what struck the explorers more than anything was the appearance of singular newness that pervaded the whole of the region. It all seemed so recent in its formation that the atmosphere had had no opportunity of producing its wonted effect in softening the hardness of its lines, in rounding the sharpness of its angles, or in modifying the color of its surface; its outline was clearly marked against the sky, and its substance, smooth and polished as though fresh from a founder's mold, glittered with the metallic brilliancy that is characteristic of pyrites. It seemed impossible to come to any other conclusion but that the land before them, continent or island, had been upheaved by subterranean forces above the surface of the sea, and that it was mainly composed of the same metallic element as had characterized the dust so frequently uplifted from the bottom.

The extreme nakedness of the entire tract was likewise very extraordinary. Elsewhere, in various quarters of the globe, there may be sterile rocks, but there are none so adamant as to be altogether unfurrowed by the crevices engendered in the moist residuum of the condensed vapor; elsewhere there may be barren steeps, but none so arid as not to afford some hold to vegetation, however low and elementary may be its type; but here all was bare, and blank, and desolate—not a symptom of vitality was visible.

Such being the condition of the adjacent land, it could hardly be a matter of surprise that all the sea-birds, the albatross, the gull, the sea-mew, sought continual refuge on the schooner; day and night they perched fearlessly upon the yards, the report of a gun failing to dislodge them, and when food of any sort was thrown upon the deck, they would dart down and fight with eager voracity for the prize. Their extreme avidity was recognized as a proof that any land where they could obtain a sustenance must be very remote.

Onwards thus for several days the *Dobryna* followed the contour of the inhospitable coast, of which

the features would occasionally change, sometimes for two or three miles assuming the form of a simple arris, sharply defined as though cut by a chisel, when suddenly the prismatic lamellæ soaring in rugged confusion would again recur; but all along there was the same absence of beach or tract of sand to mark its base, neither were there any of those shoals of rock that are ordinarily found in shallow water. At rare intervals there were some narrow fissures, but not a creek available for a ship to enter to replenish its supply of water; and the wide roadsteads were unprotected and exposed to well-nigh every point of the compass.

But after sailing two hundred and forty miles, the progress of the *Dobryna* was suddenly arrested. Lieutenant Procope, who had sedulously inserted the outline of the newly revealed shore upon the maps, announced that it had ceased to run east and west, and had taken a turn due north, thus forming a barrier to their continuing their previous direction. It was, of course, impossible to conjecture how far this barrier extended; it coincided pretty nearly with the fourteenth meridian of east longitude; and if it reached, as probably it did, beyond Sicily to Italy, it was certain that the vast basin of the Mediterranean, which had washed the shores alike of Europe, Asia, and Africa, must have been reduced to about half its original area.

It was resolved to proceed upon the same plan as heretofore, following the boundary of the land at a safe distance. Accordingly, the head of the *Dobryna* was pointed north, making straight, as it was presumed, for the south of Europe. A hundred miles, or somewhat over, in that direction, and it was to be anticipated she would come in sight of Malta, if only that ancient island, the heritage in succession of Phœnicians Carthaginians, Sicilians, Romans, Vandals, Greeks, Arabians, and the knights of Rhodes, should still be undestroyed.

But Malta, too, was gone; and when, upon the 14th, the sounding-line was dropped upon its site, it was only with the same result so oftentimes obtained before.

"The devastation is not limited to Africa," observed the count.

"Assuredly not," assented the lieutenant; adding, "and I confess I am almost in despair whether we shall ever ascertain its limits. To what quarter of Europe, if Europe still exists, do you propose that I should now direct your course?"

"To Sicily, Italy, France!" ejaculated Servadac, eagerly,—"anywhere where we can learn the truth of what has befallen us."

"How if we are the sole survivors?" said the count, gravely.

Hector Servadac was silent; his own secret presentiment so thoroughly coincided with the doubts expressed by the count, that he refrained from saying another word.

The coast, without deviation, still tended towards the north. No alternative, therefore, remained than to take a westerly course and to attempt to reach the northern shores of the Mediterranean. On the 16th day the *Dobryna* essayed to start upon her altered way, but it seemed as if the elements had conspired to obstruct her progress. A furious tempest arose; the wind beat dead in the direction of the coast, and the danger incurred by a vessel of a tonnage so light was necessarily very great.

Lieutenant Procope was extremely uneasy. He took in all sail, struck his topmasts, and resolved to rely entirely on his engine. But the peril seemed only to increase. Enormous waves caught the schooner and carried her up to their crests, whence again she was plunged deep into the abysses that they left. The screw failed to keep its hold upon the water, but continually revolved with useless speed in the vacant air; and thus, although the steam was forced on to the extremest limit consistent with safety, the vessel held her way with the utmost difficulty, and recoiled before the hurricane.

Still, not a single resort for refuge did the inhospitable shore present. Again and again the lieutenant asked himself what would become of him and his comrades, even if they should survive the peril of shipwreck, and gain a footing upon the cliff. What resources could they expect to find upon that scene of desolation? What hope could they entertain that any portion of the old continent still existed beyond that dreary barrier?

It was a trying time, but throughout it all the crew behaved with the greatest courage and composure; confident in the skill of their commander, and in the stability of their ship, they performed their duties with steadiness and unquestioning obedience.

But neither skill, nor courage, nor obedience could avail; all was in vain. Despite the strain put upon her engine, the schooner, bare of canvas (for not even the smallest stay-sail could have withstood the violence of the storm), was drifting with terrific speed towards the menacing precipices, which were only a few short miles to leeward. Fully alive to the hopelessness of their situation, the crew were all on deck.

"All over with us, sir!" said Procope to the count. "I have done everything that man could do; but our case is desperate. Nothing short of a miracle can save us now. Within an hour we must go to pieces upon yonder rocks."

"Let us, then, commend ourselves to the providence of Him to Whom nothing is impossible," replied the count, in a calm, clear voice that could be distinctly heard by all; and as he spoke, he reverently uncovered, an example in which he was followed by all the rest.

The destruction of the vessel seeming thus inevitable, Lieutenant Procope took the best measures he could to insure a few days' supply of food for any who might escape ashore. He ordered several cases of provisions and kegs of water to be brought on deck, and saw that they were securely lashed to some empty barrels, to make them float after the ship had gone down.

Less and less grew the distance from the shore, but no creek, no inlet, could be discerned in the towering wall of cliff, which seemed about to topple over and involve them in annihilation. Except a change of wind, or, as Procope observed a supernatural rifting of the rock, nothing could bring deliverance now. But the wind did not veer, and in a few minutes more the schooner was hardly three cables' distance from the fatal land. All were aware that their last moment had arrived. Servadac and the count grasped each others' hands for a long farewell; and, tossed by the tremendous waves, the schooner was on the very point of being hurled

upon the cliff, when a ringing shout was heard. "Quick, boys, quick! Hoist the jib, and right the helm!"

Sudden and startling as the unexpected orders were, they were executed as if by magic.

The lieutenant, who had shouted from the bow, rushed astern and took the helm, and before anyone had time to speculate upon the object of his maneuvers, he shouted again, "Look out! sharp! watch the sheets!"

An involuntary cry broke forth from all on board. But it was no cry of terror. Right ahead was a narrow opening in the solid rock; it was hardly forty feet wide. Whether it was a passage or not, it mattered little; it was at least a refuge; and, driven by wind and wave, the *Dobryna*, under the dexterous guidance of the lieutenant, dashed in between its perpendicular walls.

Had she not immured herself in a perpetual prison?

CHAPTER XIII

A ROYAL SALUTE

"Then I take your bishop, major," said Colonel Murphy, as he made a move that he had taken since the previous evening to consider.

"I was afraid you would," replied Major Oliphant, looking intently at the chess-board.

Such was the way in which a long silence was broken on the morning of the 17th of February by the old calendar.

Another day elapsed before another move was made. It was a protracted game; it had, in fact, already lasted some months—the players being so deliberate, and so fearful of taking a step without the most mature consideration, that even now they were only making the twentieth move.

Both of them, moreover, were rigid disciples of the renowned Philidor, who pronounces that to play the pawns well is "the soul of chess"; and, accordingly, not one pawn had been sacrificed without a most vigorous defense.

The men who were thus beguiling their leisure were two officers in the British army—Colonel Heneage Finch Murphy and Major Sir John Temple Oliphant. Remarkably similar in personal appearance, they were hardly less so in personal character. Both of them were about forty years of age; both of them were tall and fair, with bushy whiskers and mustaches; both of them were phlegmatic in temperament, and both much addicted to the wearing of their uniforms. They were proud of their nationality, and exhibited a manifest dislike, verging upon contempt, for everything foreign. Probably they would have felt no surprise if they had been told that Anglo-Saxons were fashioned out of some specific clay, the properties of which surpassed the investigation of chemical analysis. Without any intentional disparagement they might, in a certain way, be compared to two scarecrows which, though perfectly harmless in themselves, inspire some measure of respect, and are excellently adapted to protect the territory intrusted to their guardianship.

English-like, the two officers had made themselves thoroughly at home in the station abroad in which it had been their lot to be quartered. The faculty of colonization seems to be indigenous to the native character; once let an Englishman plant his national standard on the surface of the moon, and it would not be long before a colony would be established around it.

The officers had a servant, named Kirke, and a company of ten soldiers of the line. This party of thirteen men were apparently the sole survivors of an overwhelming catastrophe, which on the 1st of January had transformed an enormous rock, garrisoned with well-nigh two thousand troops, into an insignificant island far out to sea. But although the transformation had been so marvelous, it cannot be said that either Colonel Murphy or Major Oliphant had made much demonstration of astonishment.

"This is all very peculiar, Sir John," observed the colonel.

"Yes, colonel; very peculiar," replied the major.

"England will be sure to send for us," said one officer.

"No doubt she will," answered the other.

Accordingly, they came to the mutual resolution that they would "stick to their post."

To say the truth, it would have been a difficult matter for the gallant officers to do otherwise; they had but one small boat; therefore, it was well that they made a virtue of necessity, and resigned themselves to patient expectation of the British ship which, in due time, would bring relief.

They had no fear of starvation. Their island was mined with subterranean stores, more than ample for thirteen men—nay, for thirteen Englishmen—for the next five years at least. Preserved meat, ale, brandy—all were in abundance; consequently, as the men expressed it, they were in this respect "all right."

Of course, the physical changes that had taken place had attracted the notice both of officers and men. But the reversed position of east and west, the diminution of the force of gravity, the altered rotation of the earth, and her projection upon a new orbit, were all things that gave them little concern and no uneasiness; and when the colonel and the major had replaced the pieces on the board which had been disturbed by the convulsion, any surprise they might have felt at the chess-men losing some portion of their weight was quite forgotten in the satisfaction of seeing them retain their equilibrium.

One phenomenon, however, did not fail to make its due impression upon the men; this was the diminution in the length of day and night. Three days after the catastrophe, Corporal Pim, on behalf of himself and his comrades, solicited a formal interview with the officers. The request having been granted, Pim, with the nine soldiers, all punctiliously wearing the regimental tunic of scarlet and trousers of invisible green, presented themselves at the door of the colonel's room, where he and his brother-officer were continuing their game. Raising his hand respectfully to his cap, which he wore poised jauntily over his right ear, and scarcely held on by the strap below his under lip, the corporal waited permission to speak.

After a lingering survey of the chess-board, the colonel slowly lifted his eyes, and said with official dignity, "Well, men, what is it?"

"First of all, sir," replied the corporal, "we want to speak to you about our pay, and then we wish

to have a word with the major about our rations."

"Say on, then," said Colonel Murphy. "What is it about your pay?"

"Just this, sir; as the days are only half as long as they were, we should like to know whether our pay is to be diminished in proportion."

The colonel was taken somewhat aback, and did not reply immediately, though by some significant nods towards the major, he indicated that he thought the question very reasonable. After a few moments' reflection, he replied, "It must, I think, be allowed that your pay was calculated from sunrise to sunrise; there was no specification of what the interval should be. Your pay will continue as before. England can afford it.

A buzz of approval burst involuntarily from all the men, but military discipline and the respect due to their officers kept them in check from any boisterous demonstration of their satisfaction.

"And now, corporal, what is your business with me?" asked Major Oliphant.

"We want to know whether, as the days are only six hours long, we are to have but two meals instead of four?"

The officers looked at each other, and by their glances agreed that the corporal was a man of sound common sense.

"Eccentricities of nature," said the major, "cannot interfere with military regulations. It is true that there will be but an interval of an hour and a half between them, but the rule stands good—four meals a day. England is too rich to grudge her soldiers any of her soldiers' due. Yes; four meals a day."

"Hurrah!" shouted the soldiers, unable this time to keep their delight within the bounds of military decorum; and, turning to the right-about, they marched away, leaving the officers to renew the all-absorbing game.

However confident everyone upon the island might profess to be that succor would be sent them from their native land—for Britain never abandons any of her sons—it could not be disguised that that succor was somewhat tardy in making its appearance. Many and various were the conjectures to account for the delay. Perhaps England was engrossed with domestic matters, or perhaps she was absorbed in diplomatic difficulties; or perchance, more likely than all, Northern Europe had received no tidings of the convulsion that had shattered the south. The whole party throve remarkably well upon the liberal provisions of the commissariat department, and if the officers failed to show the same tendency to *embonpoint* which was fast becoming characteristic of the men, it was only because they deemed it due to their rank to curtail any indulgences which might compromise the fit of their uniform.

On the whole, time passed indifferently well. An Englishman rarely suffers from *ennui*, and then only in his own country, when required to conform to what he calls "the humbug of society"; and the two officers, with their similar tastes, ideas, and dispositions, got on together admirably. It is not to be questioned that they were deeply affected by a sense of regret for their lost comrades, and astounded beyond measure at finding themselves the sole survivors of a garrison of 1,895 men, but with true British pluck and self-control, they had done nothing more than draw up a report that 1883 names were missing from the muster-roll.

The island itself, the sole surviving fragment of an enormous pile of rock that had reared itself some 1,600 feet above the sea, was not, strictly speaking, the only land that was visible; for about twelve miles to the south there was another island, apparently the very counterpart of what was now occupied by the Englishmen. It was only natural that this should awaken some interest even in the most imperturbable minds, and there was no doubt that the two officers, during one of the rare intervals when they were not absorbed in their game, had decided that it would be desirable at least to ascertain whether the island was deserted, or whether it might not be occupied by some others, like themselves, survivors from the general catastrophe. Certain it is that one morning, when the weather was bright and calm, they had embarked alone in the little boat, and been absent for seven or eight hours. Not even to Corporal Pim did they communicate the object of their excursion, nor say one syllable as to its result, and it could only be inferred from their manner that they were quite satisfied with what they had seen; and very shortly afterwards Major Oliphant was observed to draw up a lengthy document, which was no sooner finished than it was formally signed and sealed with the seal of the 33rd Regiment. It was directed:

To the First Lord of the Admiralty,
London,

and kept in readiness for transmission by the first ship that should hail in sight. But time elapsed, and here was the 18th of February without an opportunity having been afforded for any communication with the British Government.

At breakfast that morning, the colonel observed to the major that he was under the most decided impression that the 18th of February was a royal anniversary; and he went on to say that, although he had received no definite instructions on the subject, he did not think that the peculiar circumstances under which they found themselves should prevent them from giving the day its due military honors.

The major quite concurred; and it was mutually agreed that the occasion must be honored by a bumper of port, and by a royal salute. Corporal Pim must be sent for. The corporal soon made his appearance, smacking his lips, having, by a ready intuition, found a pretext for a double morning ration of spirits.

"The 18th of February, you know, Pim," said the colonel; "we must have a salute of twenty-one guns."

"Very good," replied Pim, a man of few words.

"And take care that your fellows don't get their arms and legs blown off," added the officer.

"Very good, sir," said the corporal; and he made his salute and withdrew.

Of all the bombs, howitzers, and various species of artillery with which the fortress had been crowded, one solitary piece remained. This was a cumbrous muzzle-loader of 9-inch caliber, and, in default of the smaller ordnance generally employed for the purpose, had to be brought into requisition for the royal salute.

A sufficient number of charges having been provided, the corporal brought his men to the reduct,

whence the gun's mouth projected over a sloping embrasure. The two officers, in cocked hats and full staff uniform, attended to take charge of the proceedings. The gun was maneuvered in strict accordance with the rules of "The Artilleryman's Manual," and the firing commenced.

Not unmindful of the warning he had received, the corporal was most careful between each discharge to see that every vestige of fire was extinguished, so as to prevent an untimely explosion while the men were reloading; and accidents, such as so frequently mar public rejoicings, were all happily avoided.

Much to the chagrin of both Colonel Murphy and Major Oliphant, the effect of the salute fell altogether short of their anticipations. The weight of the atmosphere was so reduced that there was comparatively little resistance to the explosive force of the gases, liberated at the cannon's mouth, and there was consequently none of the reverberation, like rolling thunder, that ordinarily follows the discharge of heavy artillery.

Twenty times had the gun been fired, and it was on the point of being loaded for the last time, when the colonel laid his hand upon the arm of the man who had the ramrod. "Stop!" he said; "we will have a ball this time. Let us put the range of the piece to the test."

"A good idea!" replied the major. "Corporal, you hear the orders."

In quick time an artillery-wagon was on the spot, and the men lifted out a full-sized shot, weighing 200 lbs., which, under ordinary circumstances, the cannon would carry about four miles. It was proposed, by means of telescopes, to note the place where the ball first touched the water, and thus to obtain an approximation sufficiently accurate as to the true range.

Having been duly charged with powder and ball, the gun was raised to an angle of something under 45°, so as to allow proper development to the curve that the projectile would make, and, at a signal from the major, the light was applied to the priming.

"Heavens!" "By all that's good!" exclaimed both officers in one breath, as, standing open-mouthed, they hardly knew whether they were to believe the evidence of their own senses. "Is it possible?"

The diminution of the force of attraction at the earth's surface was so considerable that the ball had sped beyond the horizon.

"Incredible!" ejaculated the colonel.

"Incredible!" echoed the major.

"Six miles at least!" observed the one.

"Ay, more than that!" replied the other.

Awhile, they gazed at the sea and at each other in mute amazement. But in the midst of their perplexity, what sound was that which startled them? Was it mere fancy? Was it the reverberation of the cannon still booming in their ears? Or was it not truly the report of another and a distant gun in answer to their own? Attentively and eagerly they listened. Twice, thrice did the sound repeat itself. It was quite distinct. There could be no mistake.

"I told you so," cried the colonel, triumphantly. "I knew our country would not forsake us; it is an English ship, no doubt."

In half an hour two masts were visible above the horizon. "See! Was I not right? Our country was sure to send to our relief. Here is the ship."

"Yes," replied the major; "she responded to our gun."

"It is to be hoped," muttered the corporal, "that our ball has done her no damage."

Before long the hull was full in sight. A long trail of smoke betokened her to be a steamer; and very soon, by the aid of the glass, it could be ascertained that she was a schooner-yacht, and making straight for the island. A flag at her masthead fluttered in the breeze, and towards this the two officers, with the keenest attention, respectively adjusted their glasses.

Simultaneously the two telescopes were lowered. The colonel and the major stared at each other in blank astonishment. "Russian!" they gasped.

And true it was that the flag that floated at the head of yonder mast was the blue cross of Russia.

CHAPTER XIV

SENSITIVE NATIONALITY

When the schooner had approached the island, the Englishmen were able to make out the name *"Dobryna"* painted on the stern. A sinuous irregularity of the coast had formed a kind of cove, which, though hardly spacious enough for a few fishing-smacks, would afford the yacht a temporary anchorage, so long as the wind did not blow violently from either west or south. Into this cove the *Dobryna* was duly signaled, and as soon as she was safely moored, she lowered her four-oar, and Count Timascheff and Captain Servadac made their way at once to land.

Colonel Heneage Finch Murphy and Major Sir John Temple Oliphant stood, grave and prim, formally awaiting the arrival of their visitors. Captain Servadac, with the uncontrolled vivacity natural to a Frenchman, was the first to speak.

"A joyful sight, gentlemen!" he exclaimed. "It will give us unbounded pleasure to shake hands again with some of our fellow-creatures. You, no doubt have escaped the same disaster as ourselves."

But the English officers, neither by word nor gesture, made the slightest acknowledgment of this familiar greeting.

"What news can you give us of France, England, or Russia?" continued Servadac, perfectly unconscious of the stolid rigidity with which his advances were received. "We are anxious to hear anything you can tell us. Have you had communications with Europe? Have you—"

"To whom have we the honor of speaking?" at last interposed Colonel Murphy, in the coldest and most measured tone, and drawing himself up to his full height.

"Ah! how stupid! I forgot," said Servadac, with the slightest possible shrug of the shoulders; "we have not been introduced."

Then, with a wave of his hand towards his companion, who meanwhile had exhibited a reserve hardly less than that of the British officers, he said:

"Allow me to introduce you to Count Wassili Timascheff."

"Major Sir John Temple Oliphant," replied the colonel.

The Russian and the Englishman mutually exchanged the stiffest of bows.

"I have the pleasure of introducing Captain Servadac," said the count in his turn.

"And this is Colonel Heneage Finch Murphy," was the major's grave rejoinder.

More bows were interchanged and the ceremony brought to its due conclusion. It need hardly be said that the conversation had been carried on in French, a language which is generally known both by Russians and Englishmen—a circumstance that is probably in some measure to be accounted for by the refusal of Frenchmen to learn either Russian or English.

The formal preliminaries of etiquette being thus complete, there was no longer any obstacle to a freer intercourse. The colonel, signing to his guests to follow, led the way to the apartment occupied jointly by himself and the major, which, although only a kind of casemate hollowed in the rock, nevertheless wore a general air of comfort. Major Oliphant accompanied them, and all four having taken their seats, the conversation started.

Irritated and disgusted at all the cold formalities, Hector Servadac resolved to leave all the talking to the count; and he, quite aware that the Englishmen would adhere to the fiction that they could be supposed to know nothing that had transpired previous to the introduction, felt himself obligated to recapitulate matters from the very beginning.

"You must be aware, gentlemen," began the count, "that a most singular catastrophe occurred on the 1st of January last. Its cause, its limits we have utterly failed to discover, but from the appearance of the island on which we find you here, you have evidently experienced its devastating consequences."

The Englishmen, in silence, bowed assent.

"Captain Servadac, who accompanies me," continued the count, "has been most severely tried by the disaster. Engaged as he was in an important mission as a staff-officer in Algeria——"

"A French colony, I believe," interposed Major Oliphant, half shutting his eyes with an expression of supreme indifference.

Servadac was on the point of making some cutting retort, but Count Timascheff, without allowing the interruption to be noticed, calmly continued his narrative:

"It was near the mouth of the Shelif that a portion of Africa, on that eventful night, was transformed into an island which alone survived; the rest of the vast continent disappeared as completely as if it had never been."

The announcement seemed by no means startling to the phlegmatic colonel.

"Indeed!" was all he said.

"And where were you?" asked Major Oliphant.

"I was out at sea, cruising in my yacht hard by; and I look upon it as a miracle, and nothing less, that I and my crew escaped with our lives."

"I congratulate you on your luck," replied the major.

The count resumed: "It was about a month after the great disruption that I was sailing—my engine having sustained some damage in the shock—along the Algerian coast, and had the pleasure of meeting with my previous acquaintance, Captain Servadac, who was resident upon the island with his orderly, Ben Zoof."

"Ben who?" inquired the major.

"Zoof! Ben Zoof!" ejaculated Servadac, who could scarcely shout loud enough to relieve his pent-up feelings.

Ignoring this ebulition of the captain's spleen, the count went on to say: "Captain Servadac was naturally most anxious to get what news he could. Accordingly, he left his servant on the island in charge of his horses, and came on board the *Dobryna* with me. We were quite at a loss to know where we should steer, but decided to direct our course to what previously had been the east, in order that we might, if possible, discover the colony of Algeria; but of Algeria not a trace remained."

The colonel curled his lip, insinuating only too plainly that to him it was by no means surprising that a French colony should be wanting in the element of stability. Servadac observed the supercilious look, and half rose to his feet, but, smothering his resentment, took his seat again without speaking.

"The devastation, gentlemen," said the count, who persistently refused to recognize the Frenchman's irritation, "everywhere was terrible and complete. Not only was Algeria lost, but there was no trace of Tunis, except one solitary rock which was crowned by an ancient tomb of one of the kings of France——"

"Louis the Ninth, I presume," observed the colonel.

"Saint Louis," blurted out Servadac, savagely.

Colonel Murphy slightly smiled.

Proof against all interruption, Count Timascheff, as if he had not heard it, went on without pausing. He related how the schooner had pushed her way onwards to the south, and had reached the Gulf of Cabes; and how she had ascertained for certain that the Sahara Sea had no longer an existence.

The smile of disdain again crossed the colonel's face; he could not conceal his opinion that such a destiny for the work of a Frenchman could be no matter of surprise.

"Our next discovery," continued the count, "was that a new coast had been upheaved right along in front of the coast of Tripoli, the geological formation of which was altogether strange, and which extended to the north as far as the proper place of Malta."

"And Malta," cried Servadac, unable to control himself any longer; "Malta—town, forts, soldiers, governor, and all—has vanished just like Algeria."

For a moment a cloud rested upon the colonel's brow, only to give place to an expression of decided incredulity.

"The statement seems highly incredible," he said.

"Incredible? repeated Servadac. "Why is it that you doubt my word?"

The captain's rising wrath did not prevent the colonel from replying coolly, "Because Malta belongs to England."

"I can't help that," answered Servadac, sharply; "it has gone just as utterly as if it had belonged to China."

Colonel Murphy turned deliberately away from Servadac, and appealed to the count: "Do you not think you may have made some error, count, in reckoning the bearings of your yacht?"

"No, colonel, I am quite certain of my reckonings; and not only can I testify that Malta has disap-

peared, but I can affirm that a large section of the Mediterranean has been closed in by a new continent. After the most anxious investigation, we could discover only one narrow opening in all the coast, and it is by following that little channel that we have made our way hither. England, I fear, has suffered grievously by the late catastrophe. Not only has Malta been entirely lost, but of the Ionian Islands that were under England's protection, there seems to be but little left."

"Ay, you may depend upon it," said Servadac, breaking in upon the conversation petulantly, "your grand resident Lord High Commissioner has not much to congratulate himself about in the condition of Corfu."

The Englishmen were mystified.

"Corfu, did you say?" asked Major Oliphant.

"Yes, Corfu; I said Corfu," replied Servadac, with a sort of malicious triumph.

The officers were speechless with astonishment.

The silence of bewilderment was broken at length by Count Timascheff making inquiry whether nothing had been heard from England, either by telegraph or by any passing ship.

"No," said the colonel; "not a ship has passed; and the cable is broken."

"But do not the Italian telegraphs assist you?" continued the count.

"Italian! I do not comprehend you. You must mean the Spanish, surely."

"How?" demanded Timascheff.

"Confound it!" cried the impatient Servadac. "What matters whether it be Spanish or Italian? Tell us, have you had no communication at all from Europe?—no news of any sort from London?"

"Hitherto, none whatever," replied the colonel; adding with a stately emphasis, "but we shall be sure to have tidings from England before long."

"Whether England is still in existence or not, I suppose," said Servadac, in a tone of irony.

The Englishmen started simultaneously to their feet.

"England in existence?" the colonel cried. "England! Ten times more probable that France——"

"France!" shouted Servadac in a passion. "France is not an island that can be submerged; France is an integral portion of a solid continent. France, at least, is safe."

A scene appeared inevitable, and Count Timascheff's efforts to conciliate the excited parties were of small avail.

"You are at home here," said Servadac, with as much calmness as he could command; "it will be advisable, I think, for this discussion to be carried on in the open air." And hurriedly he left the room. Followed immediately by the others, he led the way to a level piece of ground, which he considered he might fairly claim as neutral territory.

"Now, gentlemen," he began haughtily, "permit me to represent that, in spite of any loss France may have sustained in the fate of Algeria, France is ready to answer any provocation that affects her honor. Here I am the representative of my country, and here, on neutral ground——"

"Neutral ground?" objected Colonel Murphy; "I beg your pardon. This, Captain Servadac, is English territory. Do you not see the English flag?" and, as he spoke, he pointed with national pride to the British standard floating over the top of the island.

"Pshaw!" cried Servadac, with a contemptuous sneer; "that flag, you know, has been hoisted but a few short weeks."

"That flag has floated where it is for ages," asserted the colonel.

"An imposture!" shouted Servadac, as he stamped with rage.

Recovering his composure in a degree, he continued:

"Can you suppose that I am not aware that this island on which we find you is what remains of the Ionian representative republic, over which you English exercise the right of protection, but have no claim of government?"

The colonel and the major looked at each other in amazement.

Although Count Timascheff secretly sympathized with Servadac he had carefully refrained from taking part in the dispute; but he was on the point of interfering, when the colonel, in a greatly subdued tone, begged to be allowed to speak.

"I begin to apprehend," he said, "that you must be laboring under some strange mistake. There is no room for questioning that the territory here is England's—England's by right of conquest; ceded to England by the Treaty of Utrecht. Three times, indeed—in 1727, 1779, and 1792—France and Spain have disputed our title, but always to no purpose. You are, I assure you, at the present moment, as much on English soil as if you were in London, in the middle of Trafalgar Square."

It was now the turn of the captain and the count to look surprised. "Are we not, then, in Corfu?" they asked.

"You are at Gibraltar," replied the colonel.

Gibraltar! The word fell like a thunderclap upon their ears. Gibraltar! the western extremity of the Mediterranean! Why, had they not been sailing persistently to the east? Could they be wrong in imagining that they had reached the Ionian Islands? What new mystery was this?

Count Timascheff was about to proceed with a more rigorous investigation, when the attention of all was arrested by a loud outcry. Turning round, they saw that the crew of the *Dobryna* was in hot dispute with the English soldiers. A general altercation had arisen from a disagreement between the sailor Panofka and Corporal Pim. It had transpired that the cannon-ball fired in experiment from the island had not only damaged one of the spars of the schooner, but had broken Panofka's pipe, and, moreover, had just grazed his nose, which, for a Russian's, was unusually long. The discussion over this mishap led to mutual recriminations, till the sailors had almost come to blows with the garrison.

Servadac was just in the mood to take Panofka's part, which drew fom Major Oliphant the remark that England could not be held responsible for any accidental injury done by her cannon, and if the Russian's long nose came in the way of the ball, the Russian must submit to the mischance.

This was too much for Count Timascheff, and having poured out a torrent of angry invective against the English officers, he ordered his crew to embark immediately.

"We shall meet again," said Servadac, as they pushed off from shore.

"Whenever you please," was the cool reply.

The geographical mystery haunted the minds of both the count and the captain, and they felt they could never rest till they had ascertained what had become of their respective countries. They were glad to be on board again, that they might resume their voyage of investigation, and in two hours were out of sight of the sole remaining fragment of Gibraltar.

CHAPTER XV

AN ENIGMA FROM THE SEA

Lieutenant Procope had been left on board in charge of the *Dobryna*, and on resuming the voyage it was a task of some difficulty to make him understand the fact that had just come to light. Some hours were spent in discussion and in attempting to penetrate the mysteries of the situation.

There were certain things of which they were perfectly certain. They could be under no misapprehension as to the distance they had positively sailed from Gourbi Island towards the east before their further progress was arrested by the unknown shore; as nearly as possible that was fifteen degrees; the length of the narrow strait by which they had made their way across that land to regain the open sea was about three miles and a half; thence onward to the island, which they had been assured, on evidence that they could not disbelieve, to be upon the site of Gibraltar, was four degrees; while from Gibraltar to Gourbi Island was seven degrees or but little more. What was it altogether? Was it not less than thirty degrees? In that latitude, the degree of longitude represents eight and forty miles. What, then, did it all amount to? Indubitably, to less than 1,400 miles. So brief a voyage would bring the *Dobryna* once again to her starting-point, or, in other words, would enable her to complete the circumnavigation of the globe. How changed the condition of things! Previously, to sail from Malta to Gibraltar by an eastward course would have involved the passage of the Suez Canal, the Red Sea, the Indian Ocean, the Pacific, the Atlantic; but what had happened now? Why, Gibraltar had been reached as if it had been just at Corfu, and some three hundred and thirty degrees of the earth's circuit had vanished utterly.

After allowing for a certain margin of miscalculation, the main fact remained undeniable; and the necessary inference that Lieutenant Procope drew from the round of the earth being completed in 1,400 miles, was that the earth's diameter had been reduced by about fifteen sixteenths of its length.

"If that be so," observed the count, "it accounts for some of the strange phenomena we witness. If our world has become so insignificant a spheroid, not only has its gravity diminished, but its rotary speed has been accelerated; and this affords an adequate explanation of our days and nights being thus curtailed. But how about the new orbit in which we are moving?"

He paused and pondered, and then looked at Procope as though awaiting from him some further elucidation of the difficulty. The lieutenant hesitated. When, in a few moments, he began to speak, Servadac smiled intelligently, anticipating the answer he was about to hear.

"My conjecture is," said Procope, "that a fragment of considerable magnitude has been detached from the earth; that it has carried with it an envelope of the earth's atmosphere, and that it is now traveling through the solar system in an orbit that does not correspond at all with the proper orbit of the earth."

The hypothesis was plausible; but what a multitude of bewildering speculations it entailed! If, in truth, a certain mass had been broken off from the terrestrial sphere, whither would it wend its way? What would be the measure of the eccentricity of its path? What would be its period round the sun? Might it not, like a comet, be carried away into the vast infinity of space? or, on the other hand, might it not be attracted to the great central source of light and heat, and be absorbed in it? Did its orbit correspond with the plane of the ecliptic? and was there no chance of its ever uniting again with the globe, from which it had been torn off by so sudden and violent a disruption.

A thoughtful silence fell upon them all, which Servadac was the first to break. "Lieutenant," he said, "your explanation is ingenious, and accounts for many appearances; but it seems to me that in one point it fails."

"How so?" replied Procope. "To my mind the theory meets all objections."

"I think not," Servadac answered. "In one point, at least, it appears to me to break down completely."

"What is that?" asked the lieutenant.

"Stop a moment," said the captain. "Let us see that we understand each other right. Unless I mistake you, your hypothesis is that a fragment of the earth, comprising the Mediterranean and its shores from Gibraltar to Malta, has been developed into a new asteroid, which is started on an independent orbit in the solar regions. Is not that your meaning?"

"Precisely so," the lieutenant acquiesced.

"Well, then," continued Servadac, "it seems to me to be at fault in this respect: it fails, and fails completely, to account for the geological character of the land that we have found now encompassing this sea. Why, if the new land is a fragment of the old —why does it not retain its old formation? What has become of the granite and the calcareous deposits? How is it that these should all be changed into a mineral concrete with which we have no acquaintance?"

No doubt, it was a serious objection; for, however likely it might be that a mass of the earth on being detached would be eccentric in its movements, there was no probable reason to be alleged why the material of its substance should undergo so complete a change. There was nothing to account for the fertile shores, rich in vegetation, being transformed into rocks arid and barren beyond precedent.

The lieutenant felt the difficulty, and owned himself unprepared to give at once an adequate solution; nevertheless, he declined to renounce his theory. He asserted that the arguments in favor of it carried conviction to his mind, and that he entertained no doubt but that, in the course of time, all apparently antagonistic circumstances would be explained so as to become consistent with the view he took. He was careful, however, to make it un-

derstood that with respect to the original cause of the disruption he had no theory to offer; and although he knew what expansion might be the result of subterranean forces, he did not venture to say that he considered it sufficient to produce so tremendous an effect. The origin of the catastrophe was a problem still to be solved.

"Ah! well," said Servadac, "I don't know that it matters much where our new little planet comes from, or what it is made of, if only it carries France along with it."

"And Russia," added the count.

"And Russia, of course," said Servadac, with a polite bow.

There was, however, not much room for this sanguine expectation, for if a new asteroid had thus been brought into existence, it must be a sphere of extremely limited dimensions, and there could be little chance that it embraced more than the merest fraction of either France or Russia. As to England, the total cessation of all telegraphic communication between her shores and Gibraltar was a virtual proof that England was beyond its compass.

And what was the true measurement of the new little world? At Gourbi Island the days and nights were of equal length, and this seemed to indicate that it was situated on the equator; hence the distance by which the two poles stood apart would be half what had been reckoned would be the distance completed by the *Dobryna* in her circuit. That distance had been already estimated to be something under 1,400 miles, so that the Arctic Pole of their recently fashioned world must be about 350 miles to the north, and the Antarctic about 350 miles to the south of the island. Compare these calculations with the map, and it is at once apparent that the northernmost limit barely touched the coast of Provence, while the southernmost reached to about lat. 29° N., and fell in the heart of the desert. The practical test of these conclusions would be made by future investigation, but meanwhile the fact appeared very much to strengthen the presumption that, if Lieutenant Procope had not arrived at the whole truth, he had made a considerable advance towards it.

The weather, ever since the storm that had driven the *Dobryna* into the creek, had been magnificent. The wind continued favorable, and now under both steam and canvas, she made a rapid progress towards the north, a direction in which she was free to go in consequence of the total disappearance of the Spanish coast, from Gibraltar right away to Alicante. Malaga, Almeria, Cape Gata, Cartagena. Cape Palos—all were gone. The sea was rolling over the southern extent of the peninsula, so that the yacht advanced to the latitude of Seville before it sighted any land at all, and then, not shores such as the shores of Andalusia, but a bluff and precipitous cliff, in its geological features resembling exactly the stern and barren rock that she had coasted beyond the site of Malta. Here the sea made a decided indentation on the coast; it ran up in an acute-angled triangle till its apex coincided. with the very spot upon which Madrid had stood. But as hitherto the sea had encroached upon the land, the land in its turn now encroached upon the sea; for a frowning headland stood out far into the basin of the Mediterranean, and formed a promontory stretching out beyond the proper places of the Balearic Isles. Curiosity was all alive. There was the intensest interest awakened to determine whether any vestige could be traced of Majorca, Minorca, or any of the group, and it was during a deviation from the direct course for the purpose of a more thorough scrutiny, that one of the sailors raised a thrill of general excitement by shouting, "A bottle in the sea!"

Here, then, at length was a communication from the outer world. Surely now they would find a document which would throw some light upon all the mysteries that had happened? Had not the day now dawned that should set their speculations all at rest?

It was the morning of the 21st of February. The count, the captain, the lieutenant, everybody hurried to the forecastle; the schooner was dexterously put about, and all was eager impatience until the supposed bottle was hauled on deck.

It was not, however, a bottle; it proved to be a round leather telescope-case, about a foot long, and the first thing to do before investigating its contents was to make a careful examination of its exterior. The lid was fastened on by wax, and so securely that it would take a long immersion before any water could penetrate; there was no maker's name to be deciphered; but impressed very plainly with a seal on the wax were the two initials "P. R."

When the scrutiny of the outside was finished, the wax was removed and the cover opened, and the lieutenant drew out a slip of ruled paper, evidently torn from a common note-book. The paper had an inscription written in four lines, which were remarkable for the profusion of notes of admiration and interrogation with which they were interspersed:

"Gallia???
Ab sole, au 15 fév. 59,000,000 l. !
Chemin parcouru de janv. à fév. 82,000,000 l. ! !
Va bene! All right!! Parfait!!!

There was a general sigh of disappointment. They turned the paper over and over, and handed it from one to another. "What does it all mean?" exclaimed the count.

"Something mysterious here!" said Servadac. "But yet," he continued, after a pause, "one thing is tolerably certain: on the 15th, six days ago, someone was alive to write it."

"Yes; I presume there is no reason to doubt the accuracy of the date," assented the count.

To this strange conglomeration of French, English, Italian, and Latin, there was no signature attached; nor was there anything to give a clue as to the locality in which it had been committed to the waves. A telescope-case would probably be the property of some one on board a ship; and the figures obviously referred to the astronomical wonders that had been experienced.

To these general observations Captain Servadac objected that he thought it unlikely that any one on board a ship would use a telescope-case for this purpose, but would be sure to use a bottle as being more secure; and, accordingly, he should rather be inclined to believe that the message had been set afloat by some *savant* left alone, perchance, upon some isolated coast.

"But, however interesting it might be," observed the count, "to know the author of the lines, to us

it is of far greater moment to ascertain their meaning."

And taking up the paper again, he said, "Perhaps we might analyze it word by word, and from its detached parts gather some clue to its sense as a whole."

"What can be the meaning of all that cluster of interrogations after Gallia?" asked Servadac.

Lieutenant Procope, who had hitherto not spoken, now broke his silence by saying, "I beg, gentlemen, to submit my opinion that this document goes very far to confirm my hypothesis that a fragment of the earth has been precipitated into space."

Captain Servadac hesitated, and then replied, "Even if it does, I do not see how it accounts in the least for the geological character of the new asteroid."

"But will you allow me for one minute to take my supposition for granted?" said Procope. "If a new little planet has been formed, as I imagine, by disintegration from the old, I should conjecture that Gallia is the name assigned to it by the writer of this paper. The very notes of interrogation are significant that he was in doubt what he should write."

"You would presume that he was a Frenchman?" asked the count.

"I should think so," replied the lieutenant.

"Not much doubt about that," said Servadac; "it is all in French, except a few scattered words of English, Latin, and Italian, inserted to attract attention. He could not tell into whose hands the message would fall first."

"Well, then," said Count Timascheff, "we seem to have found a name for the new world we occupy."

"But what I was going especially to observe," continued the lieutenant, "is that the distance, 59,000,000 leagues, represents precisely the distance we ourselves were from the sun on the 15th. It was on that day we crossed the orbit of Mars."

"Yes, true," assented the others.

"And the next line," said the lieutenant, after reading it aloud, "apparently registers the distance traversed by Gallia, the new little planet, in her own orbit. Her speed, of course, we know by Kepler's laws, would vary according to her distance from the sun, and if she were—as I conjecture from the temperature at that date—on the 15th of January, at her perihelion, she would be traveling twice as fast as the earth, which moves at the rate of between 50,000 and 60,000 miles an hour."

"You think, then," said Servadac, with a smile, "you have determined the perihelion of our orbit; but how about the aphelion? Can you form a judgment as to what distance we are likely to be carried?"

"You are asking too much," remonstrated the count.

"I confess," said the lieutenant, "that just at present I am not able to clear away the uncertainty of the future; but I feel confident that by careful observation at various points we shall arrive at conclusions which not only will determine our path, but perhaps may clear up the mystery about our geological structure."

"Allow me to ask," said Count Timascheff, "whether such a new asteriod would not be subject to ordinary mechanical laws, and whether, once started, it would not have an orbit that must be immutable?"

"Decidedly it would, so long as it was undisturbed by the attraction of some considerable body; but we must recollect that, compared to the great planets, Gallia must be almost infinitesimally small, and so might be attracted by a force that is irresistable."

"Altogether, then," said Servadac, "we seem to have settled it to our entire satisfaction that we must be the population of a young little world called Gallia. Perhaps some day we may have the honor of being registered among the minor planets."

"No chance of that," quickly rejoined Lieutenant Procope. "Those minor planets all are known to rotate in a narrow zone between the orbits of Mars and Jupiter; in their perihelia they cannot approximate the sun as we have done; we shall not be classed with them."

"Our lack of instruments," said the count, "is much to be deplored; it baffles our investigations in every way."

"Ah, never mind! Keep up your courage, count!" said Servadac, cheerily.

And Lieutenant Procope renewed his assurances that he entertained good hopes that every perplexity would soon be solved.

"I suppose," remarked the count, "that we cannot attribute much importance to the last line:

Va bene All right!! Parfait!!!

The captain answered, "At least, it shows that whoever wrote it had no murmuring or complaint to make, but was quite content with the new order of things."

CHAPTER XVI

THE RESIDUUM OF A CONTINENT

Almost unconsciously, the voyagers in the *Dobryna* fell into the habit of using Gallia as the name of the new world in which they became aware they must be making an extraordinary excursion through the realms of space. Nothing, however, was allowed to divert them from their ostensible object of making a survey of the coast of the Mediterranean, and accordingly they persevered in following that singular boundary which had revealed itself to their extreme astonishment.

Having rounded the great promontory that had barred her farther progress to the north, the schooner skirted its upper edge. A few more leagues and they ought to be abreast of the shores of France. Yes, of France.

But who shall describe the feelings of Hector Servadac when, instead of the charming outline of his native land, he beheld nothing but a solid boundary of savage rock? Who shall paint the look of consternation with which he gazed upon the stony rampart—rising perpendicularly for a thousand feet—that had replaced the shores of the smiling south? Who shall reveal the burning anxiety with which he throbbed to see beyond that cruel wall?

But there seemed no hope. Onwards and onwards the yacht made her way, and still no sign of France. It might have been supposed that Servadac's previous experiences would have prepared him for the discovery that the catastrophe which had overwhelmed other sites had brought destruction to his own country as well. But he had failed

to realize how it might extend to France; and when now he was obliged with his own eye to witness the waves of ocean rolling over what once had been the lovely shores of Provence, he was well-nigh frantic with desperation.

"Am I to believe that Gourbi Island, that little shred of Algeria, constitutes all that is left of our glorious France? No, no! it cannot be. Not yet have we reached the pole of our new world. There is—there must be—something more behind that frowning rock. Oh, that for a moment we could scale its towering height and look beyond! By Heaven, I adjure you, let us disembark, and mount the summit and explore! France lies beyond."

Disembarkation, however, was an utter impossibility. There was no semblance of a creek in which the *Dobryna* could find an anchorage. There was no outlying ridge on which a footing could be gained. The precipice was perpendicular as a wall, its topmost height crowned with the same conglomerate of crystallized lamellæ that had all along been so pronounced a feature.

With her steam at high presure, the yacht made rapid progress towards the east. The weather remained perfectly fine, the temperature became gradually cooler, so that there was little prospect of vapors accumulating in the atmosphere: and nothing more than a few cirri, almost transparent veiled here and there the clear azure of the sky. Throughout the day the pale rays of the sun, apparently lessened in its magnitude, cast only faint and somewhat uncertain shadows; but at night the stars shone with surpassing brilliancy. Of the planets, some, it was observed, seemed to be fading away in remote distance. This was the case with Mars, Venus, and that unknown orb which was moving in the orbit of the minor planets; but Jupiter, on the other hand, had assumed splendid proportions; Saturn was superb in its luster, and Uranus, which hitherto had been imperceptible without a telescope was pointed out by Lieutenant Procope, plainly visible to the naked eye. The inference was irresistible that Gallia was receding from the sun, and traveling far away across the planetary regions.

On the 24th of February, after following the sinuous course of what before the date of the convulsion had been the coast line of the department of Var, and after a fruitless search for Hyères, the peninsula of St. Tropez, the Lérius Islands, and the gulfs of Cannes and Jouar, the *Dobryna* arrived upon the site of the Cape of Antibes.

Here, quite unexpectedly, the explorers made the discovery that the massive wall of cliff had been rent from the top to the bottom by a narrow rift, like the dry bed of a mountain torrent, and at the base of the opening, level with the sea, was a little strand upon which there was just space enough for their boat to be hauled up.

"Joy! joy!" shouted Servadac, half beside himself with ecstasy; "we can land at last!"

Count Timascheff and the lieutenant were scarcely less impatient than the captain, and little needed his urgent and repeated solicitations: "Come on! Quick! Come on! no time to lose!"

It was half-past seven in the morning, when they set their foot upon this untried land. The bit of strand was only a few square yards in area, quite a narrow strip. Upon it might have been recognized some fragments of that agglutination of yellow limestone which is characteristic of the coast of Provence. But the whole party was far too eager to wait and examine these remnants of the ancient shore; they hurried on to scale the heights.

The narrow ravine was not only perfectly dry, but manifestly had never been the bed of any mountain torrent. The rocks that rested at the bottom —just as those which formed its sides—were of the same lamellous formation as the entire coast, and had not hitherto been subject to the disaggregation which the lapse of time never fails to work. A skilled geologist would probably have been able to assign them their proper scientific classification, but neither Servadac, Timascheff, nor the lieutenant could pretend to any acquaintance with their specific character.

Although, however, the bottom of the chasm had never as yet been the channel of a stream, indications were not wanting that at some future time it would be the natural outlet of accumulated waters; for already, in many places, thin layers of snow were glittering upon the surface of the fractured rocks, and the higher the elevation that was gained, the more these layers were found to increase in area and in depth.

"Here is a trace of fresh water, the first that Gallia has exhibited," said the count to his companions, as they toiled up the precipitous path.

"And probably," replied the lieutenant, "as we ascend we shall find not only snow but ice. We must suppose this Gallia of ours to be a sphere, and if it is so, we must now be very close to her Arctic regions; it is true that her axis is not so much inclined as to prolong day and night as at the poles of the earth, but the rays of the sun must reach us here only very obliquely, and the cold, in all likelihood, will be intense."

"So cold, do you think," asked Servadac, "that animal life must be extinct?"

"I do not say that, captain," answered the lieutenant; "for, however far our little world may be removed from the sun, I do not see why its temperature should fall below what prevails in those outlying regions beyond our system where sky and air are not."

"And what temperature may that be?" inquired the captain with a shudder.

"Fourier estimates that even in those vast unfathomable tracts the temperature never descends lower than 60° below zero," said Procope.

"Sixty! Sixty degrees below zero!" cried the count. "Why, there's not a Russian could endure it!"

"I beg your pardon, count. It is placed on record that the English *have* survived it, or something quite approximate, upon their Arctic expeditions. When Captain Parry was on Melville Island, he knew the thermometer to fall to —56°," said Procope.

As the explorers advanced, they seemed glad to pause from time to time, that they might recover their breath; for the air, becoming more and more rarefied, made respiration somewhat difficult and the ascent fatiguing. Before they had reached an altitude of 600 feet they noticed a sensible diminution of the temperature; but neither cold nor fatigue deterred them, and they were resolved to persevere. Fortunately, the deep striæ or furrows in the surface of the rocks that made the bottom

of the ravine in some degree facilitated their progress, but it was not until they had been toiling up for two hours more that they succeeded in reaching the summit of the cliff.

Eagerly and anxiously did they look around. To the south there was nothing but the sea they had traversed; to the north, nothing but one drear, inhospitable stretch.

Servadac could not suppress a cry of dismay. Where was his beloved France? Had he gained this arduous height only to behold the rocks carpeted with ice and snow, and reaching interminably to the far-off horizon? His heart sank within him.

The whole region appeared to consist of nothing but the same strange, uniform mineral conglomerate crystallized into regular hexagonal prisms. But whatever was its geological character it was only too evident that it had entirely replaced the former soil, so that not a vestige of the old continent of Europe could be discerned. The lovely scenery of Provence, with the grace of its rich and undulating landscape; its gardens of citrons and oranges rising tier upon tier from the deep red soil—all, all had vanished. Of the vegetable kingdom, there was not a single representative; the most meager of Arctic plants, the most insignificant of lichens, could obtain no hold upon that stony waste. Nor did the animal world assert the feeblest sway. The mineral kingdom reigned supreme.

Captain Servadac's deep dejection was in strange contrast to his general hilarity. Silent and tearful, he stood upon an ice-bound rock, straining his eyes across the boundless vista of the mysterious territory. "It cannot be!" he exclaimed. "We must somehow have mistaken our bearings. True, we have encountered this barrier; but France is there beyond! Yes, France is *there!* Come, count, come! By all that's pitiful, I entreat you, come and explore the farthest verge of the ice-bound track!"

He pushed onwards along the rugged surface of the rock, but had not proceeded far before he came to a sudden pause. His foot had come in contact with something hard beneath the snow, and, stooping down, he picked up a little block of stony substance, which the first glance revealed to be of a geological character altogether alien to the universal rocks around. It proved to be a fragment of discolored marble, on which several letters were inscribed, of which the only part at all decipherable was the syllable "Vil."

"Vil—Villa!" he cried out, in his excitement dropping the marble, which was broken into atoms by the fall.

What else could this fragment be but the sole surviving remnant of some sumptuous mansion that once had stood on this unrivaled site? Was it not the residue of some edifice that had crowned the luxuriant headlands of Antibes, overlooking Nice, and commanding the gorgeous panorama that embraced the Maritime Alps and reached beyond Monaco and Mentone to the Italian height of Bordighera? And did it not give in its sad and too convincing testimony that Antibes itself had been involved in the great destruction? Servadac gazed upon the shattered marble, pensive and disheartened.

Count Timascheff laid his hand kindly on the captain's shoulder, and said, "My friend, do you not remember the motto of the old Hope family?"

He shook his head mournfully.

"*Orbe fracto, spes illœsa,*" continued the count—"Though the world be shattered, hope is unimpaired."

Servadac smiled faintly, and replied that he felt rather compelled to take up the despairing cry of Dante, "All hope abandon, ye who enter here."

"Nay, not so," answered the count; "for the present at least, let our maxim be *Nil desperandum!*"

CHAPTER XVII

A SECOND ENIGMA

Upon re-embarking, the bewildered explorers began to discuss the question whether it would not now be desirable to make their way back to Gourbi Island, which was apparently the only spot in their new world from which they could hope to derive their future sustenance. Captain Servadac tried to console himself with the reflection that Gourbi Island was, after all, a fragment of a French colony, and as such almost like a bit of his dear France; and the plan of returning thither was on the point of being adopted, when Lieutenant Procope remarked that they ought to remember that they had not hitherto made an entire circuit of the new shores of the sea on which they were sailing.

"We have," he said, "neither investigated the northern shore from the site of Cape Antibes to the strait that brought us to Gibraltar, nor have we followed the southern shore that stretches from the strait to the Gulf of Cabes. It is the old coast, and not the new, that we have been tracing; as yet, we cannot say positively that there is no outlet to the south; as yet, we cannot assert that no oasis of the African desert has escaped the catastrophe. Perhaps, even here in the north, we may find that Italy and Sicily and the larger islands of the Mediterranean may still maintain their existence."

"I entirely concur with you," said Count Timascheff, "I quite think we ought to make our survey of the confines of this new basin as complete as possible before we withdraw."

Servadac, although he acknowledged the justness of these observations, could not help pleading that the explorations might be deferred until after a visit had been paid to Gourbi Island.

"Depend upon it, captain, you are mistaken," replied the lieutenant; "the right thing to do is to use the *Dobryna* while she is available."

"Available! What do you mean?" asked the count, somewhat taken by surprise.

"I mean," said Procope, "that the farther this Gallia of ours recedes from the sun, the lower the temperature will fall. It is likely enough, I think, that before long the sea will be frozen over, and navigation will be impossible. Already you have learned something of the difficulties of traversing a field of ice, and I am sure, therefore, you will acquiesce in my wish to continue our explorations while the water is still open."

"No doubt you are right, lieutenant," said the count. "We will continue our search while we can for some remaining fragment of Europe. Who shall tell whether we may not meet with some more survivors from the catastrophe, to whom it might be in our power to afford assistance, before we go into our winter quarters?"

Generous and altogether unselfish as this sentiment really was, it was obviously to the general interest that they should become acquainted, and if possible establish friendly relations, with any human inhabitant who might be sharing their own strange destiny in being rolled away upon a new planet into the infinitude of space. All difference of race, all distinction of nationality, must be merged into the one thought that, few as they were, they were the sole surviving representatives of a world which it seemed exceedingly improbable that they would ever see again; and common sense dictated that they were bound to direct all their energies to insure that their asteroid should at least have a united and sympathizing population.

It was on the 25th of February that the yacht left the little creek in which she had taken refuge, and setting off at full steam eastwards, she continued her way along the northern shore. A brisk breeze tended to increase the keenness of the temperature, the thermometer being, on an average, about two degrees below zero. Salt water freezes only at a lower temperature than fresh; the course of the *Dobryna* was therefore unimpeded by ice, but it could not be concealed that there was the greatest necessity to maintain the utmost possible speed.

The nights continued lovely; the chilled condition of the atmosphere prevented the formation of clouds; the constellations gleamed forth with unsullied luster; and, much as Lieutenant Procope, from nautical considerations, might regret the absence of the moon, he could not do otherwise than own that the magnificent nights of Gallia were such as must awaken the enthusiasm of an astronomer. And, as if to compensate for the loss of the moonlight, the heavens were illuminated by a superb shower of falling stars, far exceeding, both in number and in brilliancy, the phenomena which are commonly distinguished as the August and November meteors; in fact, Gallia was passing through that meteoric ring which is known to lie exterior to the earth's orbit, but almost concentric with it. The rocky coast, its metallic surface reflecting the glow of the dazzling luminaries, appeared literally stippled with light, whilst the sea, as though spattered with burning hailstones, shone with a phosphorescence that was perfectly splendid. So great, however, was the speed at which Gallia was receding from the sun, that this meteoric storm lasted scarcely more than four and twenty hours.

Next day the direct progress of the *Dobryna* was arrested by a long projection of land, which obliged her to turn southwards, until she reached what formerly would have been the southern extremity of Corsica. Of this, however, there was now no trace; the Strait of Bonfacio had been replaced by a vast expanse of water, which had at first all the appearance of being utterly desert; but on the following morning the explorers unexpectedly sighted a little island, which, unless it should prove, as was only too likely, to be of recent origin they concluded, from its situation, must be a portion of the northernmost territory of Sardinia.

The *Dobryna* approached the land as nearly as was prudent, the boat was lowered, and in a few minutes the count and Servadac had landed upon the islet, which was a mere plot of meadow land, not much more than two acres in extent, dotted here and there with a few myrtle-bushes and lentisks, interspersed with some ancient olives. Having ascertained, as they imagined, that the spot was devoid of living creature, they were on the point of returning to their boat, when their attention was arrested by a faint bleating, and immediately afterwards a solitary she-goat came bounding towards the shore. The creature had dark, almost black hair, and small curved horns, and was a specimen of that domestic breed which, with considerable justice, has gained for itself the title of "the poor man's cow." So far from being alarmed at the presence of strangers, the goat ran nimbly towards them, and then, by its movements and plaintive cries, seemed to be enticing them to follow it.

"Come," said Servadac; "let us see where it will lead us; it is more than probable it is not alone."

The count agreed; and the animal, as if comprehending what was said, trotted on gently for about a hundred paces, and stopped in front of a kind of cave or burrow that was half concealed by a grove of lentisks. Here a little girl, seven or eight years of age, with rich brown hair and lustrous dark eyes, beautiful as one of Murillo's angels, was peeping shyly through the branches. Apparently discovering nothing in the aspect of the strangers to excite her apprehensions, the child suddenly gained confidence, darted forwards with outstretched hands, and in a voice, soft and melodious as the language which she spoke, said in Italian:

"I like you; you will not hurt me, will you?"

"Hurt you, my child?" answered Servadac. "No, indeed; we will be your friends; we will take care of you."

And after a few moments' scrutiny of the pretty maiden, he added:

"Tell us your name, little one."

"Nina!" was the child's reply.

"Well, then, Nina, can you tell us where we are?"

"At Madalena, I think," said the little girl; "at least, I know I was there when that dreadful shock came and altered everything."

The count knew that Madalena was close to Caprera, to the north of Sardinia, which had entirely disappeared in the disaster. By dint of a series of questions, he gained from the child a very intelligent account of her experiences. She told him that she had no parents, and had been employed in taking care of a flock of goats belonging to one of the landowners, when one day, all of a sudden, everything around her, except this little piece of land, had been swallowed up, and that she and Marzy, her pet goat, had been left quite alone. She went on to say that at first she had been very frightened; but when she found that the earth did not shake any more, she had thanked the great God, and had soon made herself very happy living with Marzy. She had enough food, she said, and had been waiting for a boat to fetch her, and now a boat had come and she was quite ready to go away; only they must let her goat go with her: they would both like so much to get back to the old farm.

"Here, at least, is one nice little inhabitant of Gallia," said Captain Servadac, as he caressed the child and conducted her to the boat.

Half an hour later, both Nina and Marzy were safely quartered on board the yacht. It is needless to say that they received the heartiest of welcomes. The Russian sailors, ever superstitious, seemed al-

most to regard the coming of the child as the appearance of an angel; and, incredible as it may seem, more than one of them wondered whether she had wings, and amongst themselves they commonly referred to her as "the little Madonna."

Soon out of sight of Madalena, the *Dobryna* for some hours held a southeasterly course along the shore, which here was fifty leagues in advance of the former coast-line of Italy, demonstrating that a new continent must have been formed, substituted as it were for the old peninsula, of which not a vestige could be identified. At a latitude corresponding with the latitude of Rome, the sea took the form of a deep gulf, extending back far beyond the site of the Eternal City; the coast making a wide sweep round to the former position of Calabria, and jutting far beyond the outline of "the boot," which Italy resembles. But the beacon of Messina was not to be discerned; no trace, indeed, survived of any portion of Sicily; the very peak of Etna, 11,000 feet as it had reared itself above the level of the sea, had vanished utterly.

Another sixty leagues to the south, and the *Dobryna* sighted the entrance of the strait which had afforded her so providential a refuge from the tempest, and had conducted her to the fragmentary relic of Gibraltar. Hence to the Gulf of Cabes had been already explored, and as it was universally allowed that it was unnecessary to renew the search in that direction, the lieutenant started off in a transverse course, towards a point hitherto uninvestigated. That point was reached on the 3rd of March, and thence the coast was continuously followed, as it led through what had been Tunis, across the province of Constantine, away to the oasis of Ziban; where, taking a sharp turn, it first reached a latitude of 32° N. and then returned again, thus forming a sort of irregular gulf, enclosed by the same unvarying border of mineral concrete. This colossal boundary then stretched away for nearly 150 leagues over the Sahara desert, and, extending to the south of Gourbi Island, occupied what, if Morocco had still existed, would have been its natural frontier.

Adapting her course to these deviations of the coastline, the *Dobryna* was steering northwards, and had barely reached the limit of the bay, when the attention of all on board was arrested by the phenomenon of a volcano, at least 3,000 feet high, its crater crowned with smoke, which occasionally was streaked by tongues of flame.

"A burning mountain!" they exclaimed.

"Gallia, then, has some internal heat," said Servadac.

"And why not, captain?" rejoined the lieutenant. "If our asteroid has carried with it a portion of the old earth's atmosphere, why should it not likewise retain something of its central fire?"

"Ah, well!" said the captain, shrugging his shoulders, "I dare say there is caloric enough in our little world to supply the wants of its population."

Count Timascheff interrupted the silence that followed this conversation by saying, "And now, gentlemen, as our course has brought us on our way once more towards Gibraltar, what do you say to our renewing our acquaintance with the Englishmen? They will be interested in the result of our voyage."

"For my part," said Servadac, "I have no desire that way. They know where to find Gourbi Island; they can betake themselves thither just when they please. They have plenty of provisions. If the water freezes, 120 leagues is no very great distance. The reception they gave us was not so cordial that we need put ourselves out of the way to repeat our visit."

"What you say is too true," replied the count. "I hope we shall show them better manners when they condescend to visit us."

"Ay," said Servadac, "we must remember that we are all one people now; no longer Russian, French, or English. Nationality is extinct."

"I am sadly afraid, however," continued the count, "that an Englishman will be an Englishman ever."

"Yes," said the captain, "that is always their failing."

And thus all further thought of making their way again to the little garrison of Gibraltar was abandoned.

But even if their spirit of courtesy had disposed them to renew their acquaintance with the British officers, there were two circumstances that just then would have rendered such a proposal very inadvisable. In the first place, Lieutenant Procope was convinced that it could not be much longer now before the sea would be entirely frozen; and, besides this, the consumption of their coal, through the speed they had maintained, had been so great that there was only too much reason to fear that fuel would fail them. Anyhow, the strictest economy was necessary, and it was accordingly resolved that the voyage should not be much prolonged. Beyond the volcanic peak, moreover, the waters seemed to expand into a boundless ocean, and it might be a thing full of risk to be frozen up while the yacht was so inadequately provisioned. Taking all these things into account, it was agreed that further investigations should be deferred to a more favorable season, and that, without delay, the *Dobryna* should return to Gourbi Island.

This decision was especially welcome to Hector Servadac, who, throughout the whole of the last five weeks, had been agitated by much anxious thought on account of the faithful servant he had left behind.

The transit from the volcano to the island was not long, and was marked by only one noticeable incident. This was the finding of a second mysterious document, in character precisely similar to what they had found before. The writer of it was evidently engaged upon a calculation, probably continued from day to day, as to the motions of the planet Gallia upon its orbit, and committing the results of his reckonings to the waves as the channel of communication.

Instead of being enclosed in a telescope-case, it was this time secured in a preserved-meat tin, hermetically sealed, and stamped with the same initials on the wax that fastened it. The greatest care was used in opening it, and it was found to contain the following message:

"Gallia (?)
Ab sole, au 1 mars, dist. 78,000,000 1.!
Chemin parcouru de fév. à mars: 59,000,000 1 !
Va bene! All right! Nil desperandum!
Enchanté!"

"Another enigma!" exclaimed Servadac; "and still no intelligible signature, and no address. No clearing up of the mystery!"

"I have no doubt, in my own mind," said the count, "that it is one of a series. It seems to me probable that they are being sent broadcast upon the sea."

"I wonder where the hare-brained *savant* that writes them can be living?" observed Servadac.

"Very likely he may have met with the fate of Æsop's abstracted astronomer, who found himself at the bottom of a well."

"Aye; but where *is* that well?" demanded the captain.

This was a question which the count was incapable of settling; and they could only speculate afresh as to whether the author of the riddles was dwelling upon some solitary island, or, like themselves, was navigating the waters of the new Mediterranean. But they could detect nothing to guide them to a definite decision.

After thoughtfully regarding the document for some time, Lieutenant Procope proceeded to observe that he believed the paper might be considered as genuine, and accordingly, taking its statements as reliable, he deduced two important conclusions: first, that whereas, in the month of January, the distance traveled by the planet (hypothetically called Gallia) had been recorded as 82,000,000 leagues, the distance traveled in February was only 59,000,000 leagues—a difference of 23,000,000 leagues in one month; secondly, that the distance of the planet from the sun, which on the 15th of February had been 59,000,000 leagues, was on the 1st of March 78,000,000 leagues—an increase of 19,000,000 leagues in a fortnight. Thus, in proportion as Gallia receded from the sun, so did the rate of speed diminish by which she traveled along her orbit; facts to be observed in perfect conformity with the known laws of celestial mechanism.

"And your inference?" asked the count.

"My inference," replied the lieutenant, "is a confirmation of my surmise that we are following an orbit decidedly elliptical, although we have not yet the material to determine its eccentricity,"

"As the writer adheres to the appellation of Gallia, do you not think," asked the count, "that we might call these new waters the Gallian Sea?"

"There can be no reason to the contrary, count," replied the lieutenant; "and as such I will insert it upon my new chart."

"Our friend," said Servadac, "seems to be more and more gratified with the condition of things; not only has he adopted our motto, *'Nil desperandum!'* but see how enthusiastically he has wound up with his *'Enchanté!'*"

The conversation dropped.

A few hours later the man on watch announced that Gourbi Island was in sight.

CHAPTER XVIII

AN UNEXPECTED POPULATION

THE *Dobryna* was now back again at the island. Her cruise had lasted from the 31st of January to the 5th of March, a period of thirty-five days (for it was leap year), corresponding to seventy days as accomplished by the new little world.

Many a time during his absence Hector Servadac had wondered how his present vicissitudes would end, and he had felt some misgivings as to whether he should ever again set foot upon the island, and see his faithful orderly, so that it was not without emotion that he had approached the coast of the sole remaining fragment of Algerian soil. But his apprehensions were groundless; Gourbi Island was just as he had left it, with nothing unusual in its aspect, except that a very peculiar cloud was hovering over it, at an altitude of little more than a hundred feet. As the yacht approached the shore, this cloud appeared to rise and fall as if acted upon by some invisible agency, and the captain, after watching it carefully, perceived that it was not an accumulation of vapors at all, but a dense mass of birds packed as closely together as a swarm of herrings, and uttering deafening and discordant cries, amidst which from time to time the noise of the report of a gun could be plainly distinguished.

The *Dobryna* signalized her arrival by firing her cannon, and dropped anchor in the little port of the Shelif. Almost within a minute Ben Zoof was seen running, gun in hand, towards the shore; he cleared the last ridge of rocks at a single bound, and then suddenly halted. For a few seconds he stood motionless, his eyes fixed, as if obeying the instructions of a drill sergeant, on a point some fifteen yards distant, his whole attitude indicating submission and respect; but the sight of the captain, who was landing, was too much for his equanimity, and darting forward, he seized his master's hand and covered it with kisses. Instead, however, of uttering any expressions of welcome or rejoicing at the captain's return, Ben Zoof broke out into the most vehement ejaculations.

"Thieves, captain! beastly thieves! Bedouins! pirates! devils!"

"Why, Ben Zoof, what's the matter?" said Servadac soothingly.

"They are thieves! downright, desperate thieves! those infernal birds! That's what's the matter. It is a good thing you have come. Here have I for a whole month been spending my powder and shot upon them, and the more I kill them, the worse they get; and yet, if I were to leave them alone, we should not have a grain of corn upon the island."

It was soon evident that the orderly had only too much cause for alarm. The crops had ripened rapidly during the excessive heat of January, when the orbit of Gallia was being traversed at its perihelion, and were now exposed to the depredations of many thousands of birds; and although a goodly number of stacks attested the industry of Ben Zoof during the time of the *Dobryna's* voyage, it was only too apparent that the portion of the harvest that remained ungathered was liable to the most imminent risk of being utterly devoured. It was, perhaps, only natural that this clustered mass of birds, as representing the whole of the feathered tribe upon the surface of Gallia, should resort to Gourbi Island, of which the meadows seemed to be the only spot from which they could get sustenance at all; but as this sustenance would be obtained at the expense, and probably to the serious detriment, of the human population, it was absolutely necessary that every possible resistance should be made to the devastation that was threatened.

Once satisfied that Servadac and his friends would co-operate with him in the raid upon "the thieves,"

Ben Zoof became calm and content, and began to make various inquiries. "And what has become," he said, "of all our old comrades in Africa?"

"As far as I can tell you," answered the captain, "they are all in Africa still; only Africa isn't by any means where we expected to find it."

"And France? Montmartre?" continued Ben Zoof eagerly. Here was the cry of the poor fellow's heart.

As briefly as he could, Servadac endeavored to explain the true condition of things; he tried to communicate the fact that Paris, France, Europe, nay, the whole world was more than eighty millions of leagues away from Gourbi Island; as gently and cautiously as he could he expressed his fear that they might never see Europe, France, Paris, Montmartre again.

"No, no, sir!" protested Ben Zoof emphatically; "that is all nonsense. It is altogether out of the question to suppose that we are not to see Montmartre again." And the orderly shook his head resolutely, with the air of a man determined, in spite of argument, to adhere to his own opinion.

"Very good, my brave fellow," replied Servadac, "hope on, hope while you may. The message has come to us over the sea, 'Never despair'; but one thing, nevertheless, is certain; we must forthwith commence arrangements for making this island our permanent home."

Captain Servadac now led the way to the gourbi, which, by his servant's exertions, had been entirely rebuilt; and here he did the honors of his modest establishment to his two guests, the count and the lieutenant, and gave a welcome, too, to little Nina, who had accompanied them on shore, and between whom and Ben Zoof the most friendly relations had already been established.

The adjacent building continued in good preservation, and Captain Servadac's satisfaction was very great in finding the two horses, Zephyr and Galette, comfortably housed in there and in good condition.

After the enjoyment of some refreshment, the party proceeded to a general consultation as to what steps must be taken for their future welfare. The most pressing matter that came before them was the consideration of the means to be adopted to enable the inhabitants of Gallia to survive the terrible cold, which, in their ignorance of the true eccentricity of their orbit, might, for aught they knew, last for an almost indefinite period. Fuel was far from abundant; of coal there was none; trees and shrubs were few in number, and to cut them down in prospect of the cold seemed a very questionable policy; but there was no doubt that some expedient must be devised to prevent disaster, and that without delay.

The victualing of the little colony offered no immediate difficulty. Water was abundant, and the cisterns could hardly fail to be replenished by the numerous streams that meandered along the plains; moreover, the Gallian Sea would ere long be frozen over, and the melted ice, (water in its congealed state being divested of every particle of salt) would afford a supply of drink that could not be exhausted. The crops that were now ready for the harvest, and the flocks and herds scattered over the island, would form an ample reserve. There was little doubt that throughout the winter the soil would remain unproductive, and no fresh fodder for domestic animals could then be obtained; it would therefore be necessary, if the exact duration of Gallia's year should ever be calculated, to proportion the number of animals to be reserved to the real length of the winter.

The next thing requisite was to arrive at a true estimate of the number of the population. Without including the thirteen Englishmen at Gibraltar, about whom he was not particularly disposed to give himself much concern at present, Servadac put down the names of the eight Russians, the two Frenchman, and the little Italian girl, eleven in all, as the entire list of the inhabitants of Gourbi Island.

"Oh, pardon me," interposed Ben Zoof, "you are mistaking the state of the case altogether. You will be surprised to learn that the total of people on the island is double that. It is twenty-two."

"Twenty-two!" exclaimed the captain; "twenty-two people on this island? What do you mean?"

"The opportunity has not occurred," answered Ben Zoof, "for me to tell you before, but I have had company."

"Explain yourself, Ben Zoof," said Servadac. "What company have you had?"

"You could not suppose," replied the orderly, "that my own unassisted hands could have accomplished all that harvest work that you see has been done."

"I confess," said Lieutenant Procope, "we do not seem to have noticed that."

"Well, then," said Ben Zoof, "if you will be good enough to come with me for about a mile, I shall be able to show you my companions. But we must take our guns,"

"Why take our guns?" asked Servadac. "I hope we are not going to fight."

"No, not with men," said Ben Zoof; "but it does not answer to throw a chance away for giving battle to those thieves of birds."

Leaving little Nina and her goat in the gourbi, Servadac, Count Timascheff, and the lieutenant, greatly mystified, took up their guns and followed the orderly. All along their way they made unsparing slaughter of the birds that hovered over and around them. Nearly every species of the feathered tribe seemed to have its representative in that living cloud. There were wild ducks in thousands; snipe, larks, rooks, and swallows; a countless variety of sea-birds—widgeons, gulls, and seamews; beside a quantity of game—quails, partridges, and woodcocks. The sportsmen did their best; every shot told; and the depredators fell by dozens on either hand.

Instead of following the northern shore of the island, Ben Zoof cut obliquely across the plain. Making their progress with the unwonted rapidity which was attributable to their specific lightness, Servadac and his companions soon found themselves near a grove of sycamores and eucalyptus massed in picturesque confusion at the base of a little hill. Here they halted.

"Ah! the vagabonds! the rascals! the thieves!" suddenly exclaimed Ben Zoof, stamping his foot with rage.

"How now? Are your friends the birds at their pranks again?" asked the captain.

"No, I don't mean the birds: I mean those lazy beggars that are shirking their work. Look here;

look there!" And as Ben Zoof spoke, he pointed to some scythes, and sickles, and other implements of husbandry that had been left upon the ground.

"What is it you mean?" asked Servadac, getting somewhat impatient.

"Hush, hush! listen!" was all Ben Zoof's reply; and he raised his finger as if in warning.

Listening attentively, Servadac and his associates could distinctly recognize a human voice, accompanied by the notes of a guitar and by the measured click of castanets.

"Spaniards!" said Servadac.

"No mistake about that, sir," replied Ben Zoof; "a Spaniard would rattle his castanets at the cannon's mouth.' '

"But what is the meaning of it all?" asked the captain, more puzzled than before.

"Hark!" said Ben Zoof; "it is the old man's turn."

And then a voice, at once gruff and harsh, was heard vociferating, "My money! my money! when will you pay me my money? Pay me what you owe me, you miserable majos."

Meanwhile the song continued:

"Tu sandunga y cigarro,
Y una cana de Jerez,
Mi jamelgo y un trabuco,
Que mas gloria puede haver?"

Servadac's knowledge of Gascon enabled him partially to comprehend the rollicking tenor of the Spanish patriotic air, but his attention was again arrested by the voice of the old man growling savagely, "Pay me you shall; yes, by the God of Abraham, you shall pay me."

"A Jew!" exclaimed Servadac.

"Ay, sir, a German Jew," said Ben Zoof.

The party was on the point of entering the thicket, when a singular spectacle made them pause. A group of Spaniards had just begun dancing their national fandango, and the extraordinary lightness which had become the physical property of every object in the new planet made the dancers bound to a height of thirty feet or more into the air, considerably above the tops of the trees. What followed was irresistibly comic. Four sturdy majos had dragged along with them an old man incapable of resistance, and compelled him, *nolens volens*, to join in the dance; and as they all kept appearing and disappearing above the bank of foliage, their grotesque attitudes, combined with the pitiable countenance of their helpless victim, could not do otherwise than recall most forcibly the story of Sancho Panza tossed in a blanket by the merry drapers of Segovia.

Servadac, the count, Procope, and Ben Zoof now proceeded to make their way through the thicket until they came to a little glade, where two men were stretched idly on the grass, one of them playing the guitar, and the other a pair of castanets; both were exploding with laughter, as they urged the performers to greater and yet greater exertions in the dance. At the sight of strangers they paused in their music, and simultaneously the dancers, with their victim, alighted gently on the sward.

Breathless and half exhausted as was the Jew, he rushed with an effort towards Servadac, and exclaimed in French, marked by a strong Teutonic accent, "Oh, my Lord Governor, help me, help! These rascals defraud me of my rights; they rob me; but, in the name of the God of Israel, I ask you to see justice done!"

The captain glanced inquiringly towards Ben Zoof, and the orderly, by a significant nod, made his master understand that he was to play the part that was implied by the title. He took the cue, and promptly ordered the Jew to hold his tongue at once. The man bowed his head in servile submission, and folded his hands upon his breast.

Servadac surveyed him leisurely. He was a man of about fifty, but from his appearance might well have been taken for at least ten years older. Small and skinny, with eyes bright and cunning, a hooked nose, a short yellow beard, unkempt hair, huge feet, and long bony hands, he presented all the typical characteristics of the German Jew, the heartless, wily usurer, the hardened miser and skinflint. As iron is attracted by the magnet, so was this Shylock attracted by the sight of gold, nor would he have hesitated to draw the life-blood of his creditors, if by such means he could secure his claims.

His name was Isaac Hakkabut, and he was a native of Cologne. Nearly the whole of his time, however, he informed Captain Servadac, had been spent upon the sea, his real business being that of a merchant trading at all the ports of the Mediterranean. A tartan, a small vessel of two hundred tons burden, conveyed his entire stock of merchandise, and, to say the truth, was a sort of floating emporium, conveying nearly every possible article of commerce, from a lucifer match to the radiant fabrics of Frankfort and Epinal. Without wife or children, and having no settled home, Isaac Hakkabut lived almost entirely on board the *Hansa*, as he had named his tartan; and engaging a mate, with a crew of three men, as being adequate to work so light a craft, he cruised along the coasts of Algeria, Tunis, Egypt, Turkey, and Greece, visiting moreover, most of the harbors of the Levant. Careful to be always well supplied with the products in most general demand—coffee, sugar, rice, tobacco, cotton stuffs, and gunpowder—and being at all times ready to barter, and prepared to deal in secondhand wares, he had contrived to amass considerable wealth.

On the eventful night of the 1st of January the *Hansa* had been at Ceuta, the point on the coast of Morocco exactly opposite Gibraltar. The mate and three sailors had all gone on shore, and, in common with many of their fellow-creatures, had entirely disappeared; but the most projecting rock of Ceuta had been undisturbed by the general catastrophe, and half a score of Spaniards, who had happened to be upon it, had escaped with their lives. They were all Andalusian majos, agricultural laborers, and naturally as careless and apathetic as men of their class usually are, but they could not help being very considerably embarrassed when they discovered that they were left in solitude upon a detached and isolated rock. They took what mutual counsel they could, but became only more and more perplexed. One of them was named Negrete, and he, as having traveled somewhat more than the rest, was tacitly recognized as a sort of leader; but although he was by far the most enlightened of them all, he was quite incapable of forming the least conception of the nature of what had occurred. The one thing upon which they could not fail to be conscious was that they had

no prospect of obtaining provisions, and consequently their first business was to devise a scheme for getting away from their present abode. The *Hansa* was lying off shore. The Spaniards would not have had the slightest hesitation in summarily taking possession of her, but their utter ignorance of seamanship made them reluctantly come to the conclusion that the more prudent policy was to make terms with the owner.

And now came a singular part of the story. Negrete and his companions had meanwhile received a visit from two English officers from Gibraltar. What passed between them the Jew did not know; he only knew that, immediately after the conclusion of the interview, Negrete came to him and ordered him to set sail at once for the nearest point of Morocco. The Jew, afraid to disobey, but with his eye ever upon the main chance, stipulated that at the end of their voyage the Spaniards should pay for their passage—terms to which, as they would to any other, they did not demur, knowing that they had not the slightest intention of giving him a single real.

The *Hansa* had weighed anchor on the 3rd of February. The wind blew from the west, and consequently the working of the tartan was easy enough. The unpracticed sailors had only to hoist their sails and, though they were quite unconscious of the fact, the breeze carried them to the only spot upon the little world they occupied which could afford them a refuge.

Thus it fell out that one morning Ben Zoof, from his lookout on Gourbi Island, saw a ship, not the *Dobryna*, appear upon the horizon, and make quietly down towards what had formerly been the right bank of the Shelif.

Such was Ben Zoof's version of what had occurred, as he had gathered it from the new-comers. He wound up his recital by remarking that the cargo of the *Hansa* would be of immense service to them; he expected, indeed, that Isaac Hakkabut would be difficult to manage, but considered there could be no harm in appropriating the goods for the common welfare, since there could be no opportunity now for selling them.

Ben Zoof added, "And as to the difficulties between the Jew and his passengers, I told him that the governor general was absent on a tour of inspection, and that he would see everything equitably settled."

Smiling at his orderly's tactics, Servadac turned to Hakkabut, and told him that he would take care that his claims should be duly investigated and all proper demands should be paid. The man appeared satisfied, and, for the time at least, desisted from his complaints and importunities.

When the Jew had retired, Count Timascheff asked "But how in the world can you ever make those fellows pay anything?"

"They have lots of money," said Ben Zoof.

"Not likely," replied the count; "when did you ever know Spaniards like them to have lots of money?"

"But I have seen it myself," said Ben Zoof; "and it is English money."

"English money!" echoed Servadac; and his mind again reverted to the excursion made by the colonel and the major from Gibraltar, about which they had been so reticent. "We must inquire more about this," he said.

Then, addressing Count Timascheff, he added, "Altogether, I think the countries of Europe are fairly represented by the population of Gallia."

"True, captain," answered the count; "we have only a fragment of a world, but it contains natives of France, Russia, Italy, Spain, and England. Even Germany may be said to have a representative in the person of this miserable Jew."

"And even in him," said Servadac, "perhaps we shall not find so indifferent a representative as we at present imagine."

CHAPTER XIX

GALLIA'S GOVERNOR GENERAL

The Spaniards who had arrived on board the *Hansa* consisted of nine men and a lad of twelve years of age, named Pablo. They all received Captain Servadac, whom Ben Zoof introduced as the governor general, with due respect, and returned quickly to their separate tasks. The captain and his friends, followed at some distance by the eager Jew, soon left the glade and directed their steps towards the coast where the *Hansa* was moored.

As they went they discussed their situation. As far as they had ascertained, except Gourbi Island, the sole surviving fragments of the Old World were four small islands: the bit of Gibraltar occupied by the Englishmen; Ceuta, which had just been left by the Spaniards; Madalena, where they had picked up the little Italian girl; and the site of the tomb of Saint Louis on the coast of Tunis. Around these there was stretched out the full extent of the Gallian Sea, which apparently comprised about one-half of the Mediterranean, the whole being encompassed by a barrier like a framework of precipitous cliffs, of an origin and a substance alike unknown.

Of all these spots only two were known to be inhabited: Gibraltar, where the thirteen Englishmen were amply provisioned for some years to come, and their own Gourbi Island. Here there was a population of twenty-two, who would all have to subsist upon the natural products of the soil. It was indeed not to be forgotten that, perchance, upon some remote and undiscovered isle there might be the solitary writer of the mysterious papers which they had found, and if so, that would raise the census of their new asteroid to an aggregate of thirty-six.

Even upon the supposition that at some future date the whole population should be compelled to unite and find a residence upon Gourbi Island, there did not appear any reason to question but that eight hundred acres of rich soil, under good management, would yield them all an ample sustenance. The only critical matter was how long the cold season would last; every hope depended upon the land again becoming productive; at present, it seemed impossible to determine, even if Gallia's orbit were really elliptical, when she would reach her aphelion, and it was consequently necessary that the Gallians for the time being should reckon on nothing beyond their actual and present resources.

These resources were, first, the provisions of the *Dobryna*, consisting of preserved meat, sugar, wine,

brandy, and other stores sufficient for about two months; secondly, the valuable cargo of the *Hansa*, which, sooner or later, the owner, whether he would or not, must be compelled to surrender for the common benefit; and lastly, the produce of the island, animal and vegetable, which with proper economy might be made to last for a considerable period.

In the course of the conversation, Count Timascheff took an opportunity of saying that, as Captain Servadac had already been presented to the Spaniards as governor of the island, he thought it advisable that he should really assume that position.

"Every body of men," he observed, "must have a head, and you, as a Frenchman, should, I think, take the command of this fragment of a French colony. My men, I can answer for it, are quite prepared to recognize you as their superior officer."

"Most unhesitatingly," replied Servadac, "I accept the post with all its responsibilities. We understand each other so well that I fell sure we shall try and work together for the common good; and even if it be our fate never again to behold our fellow creatures, I have no misgivings but that we shall be able to cope with whatever difficulties may be before us."

As he spoke, he held out his hand. The count took it, at the same time making a slight bow. It was the first time since their meeting that the two men had shaken hands; on the other hand, not a single word about their former rivalry had ever escaped their lips; perhaps that was all forgotten now.

The silence of a few moments was broken by Servadac saying, "Do you not think we ought to explain our situation to the Spaniards?"

"No, no, your Excellency," burst in Ben Zoof, emphatically; "the fellows are chicken-hearted enough already; only tell them what has happened, and in sheer despondency they will not do another stroke of work."

"Besides," said Lieutenant Procope, who took very much the same view as the orderly, "they are so miserably ignorant they would be sure to misunderstand you."

"Understand or misunderstand," replied Servadac, "I do not think it matters. They would not care. They are all fatalists. Only give them a guitar and their castanets, and they will soon forget all care and anxiety. For my own part, I must adhere to my belief that it will be advisable to tell them everything. Have you any opinion to offer, count?"

"My own opinion, captain, coincides entirely with yours. I have followed the plan of explaining all I could to my men on board the *Dobryna*, and no inconvenience has arisen."

"Well, then, so let it be," said the captain; adding, "It is not likely that these Spaniards are so ignorant as not to have noticed the change in length of the days; neither can they be unaware of the physical changes that have transpired. They shall certainly be told that we are being carried away into unknown regions of space, and that this island is nearly all that remains of the Old World."

"Ha! ha!" laughed Ben Zoof, aloud; "it will be fine sport to watch the old Jew's face, when he is made to comprehend that he is flying away millions and millions of leagues from all his debtors."

Isaac Hakkabut was about fifty yards behind, and was consequently unable to overhear the conversation. He went shambling along, half whimpering and not infrequently invoking the God of Israel; but every now and then a cunning light gleamed from his eyes, and his lips became compressed with a grim significance.

None of the recent phenomena had escaped his notice, and more than once he had attempted to entice Ben Zoof into conversation upon the subject; but the orderly made no secret of his antipathy to him, and generally replied to his advances either by satire or by banter. He told him that he had everything to gain under the new system of nights and days, for, instead of living the Jew's ordinary life of a century, he would reach to the age of two centuries; and he congratulated him upon the circumstance of things having become so light, because it would prevent him feeling the burden of his years. At another time he would declare that, to an old usurer like him, it could not matter in the least what had become of the moon, as he could not possibly have advanced any money upon her. And when Isaac, undaunted by his jeers, persevered in besetting him with questions, he tried to silence him by saying, "Only wait till the governor general comes; he is a shrewd fellow, and will tell you all about it."

"But will he protect my property?" poor Isaac would ask tremulously.

"To be sure he will! He would confiscate it all rather than that you should be robbed of it."

With this Job's comfort the Jew had been obliged to content himself as best he could, and to await the promised arrival of the governor.

When Servadac and his companions reached the shore, they found that the *Hansa* had anchored in an exposed bay, protected but barely by a few projecting rocks, and in such a position that a gale rising from the west would inevitably drive her on to the land, where she must be dashed in pieces. It would be the height of folly to leave her in her present moorings; without loss of time she must be brought round to the mouth of the Shelif, in immediate proximity to the Russian yacht.

The consciousness that his tartan was the subject of discussion made the Jew give way to such vehement ejaculations of anxiety, that Servadac turned round and peremptorily ordered him to desist from his clamor. Leaving the old man under the surveillance of the count and Ben Zoof, the captain and the lieutenant stepped into a small boat and were soon alongside the floating emporium.

A very short inspection sufficed to make them aware that both the tartan and her cargo were in a perfect state of preservation. In the hold were sugar-loaves by hundreds, chests of tea, bags of coffee, hogsheads of tobacco, pipes of wine, casks of brandy, barrels of dried herrings, bales of cotton, clothing of every kind, shoes of all sizes, caps of various shape, tools, household utensils, china and earthenware, reams of paper, bottles of ink, boxes of lucifer matches, blocks of salt, bags of pepper and spices, a stock of huge Dutch cheeses, and a collection of almanacs and miscellaneous literature. At a rough guess the value could not be much under £5,000 sterling. A new cargo had been taken in only a few days before the catastrophe, and it had been Isaac Hakkabut's intention to cruise from Ceuta to Tripoli, calling wherever he had reason to

believe there was likely to be a market for any of his commodities.

"A fine haul, lieutenant," said the captain.

"Yes, indeed," said the lieutenant; "but what if the owner refuses to part with it?"

"No fear; no fear," replied the captain. "As soon as ever the old rascal finds that there are no more Arabs or Algerians for him to fleece, he will be ready enough to transact a little business with us. We will pay him by bills of acceptance on some of his old friends in the Old World."

"But why should he want any payment?" inquired the lieutenant. "Under the circumstances, he must know that you have a right to make a requisition of his goods."

"No, no," quickly rejoined Servadac; "we will not do that. Just because the fellow is a German we shall not be justified in treating him in German fashion. We will transact our business in a business like way. Only let him once realize that he is on a new globe, with no prospect of getting back to the old one, and he will be ready enough to come to terms with us."

"Perhaps you are right," replied the lieutenant; "I hope you are. But anyhow, it will not do to leave the tartan here; not only would she be in danger in the event of a storm, but it is very questionable whether she could resist the pressure of the ice, if the water were to freeze."

"Quite true, Procope; and accordingly I give you the commission to see that your crew bring her round to the Shelif as soon as may be."

"To-morrow morning it shall be done," answered the lieutenant, promptly.

Upon returning to the shore, it was arranged that the whole of the little colony should forthwith assemble at the gourbi. The Spaniards were summoned and Isaac, although he could only with reluctance take his wistful gaze from his tartan, obeyed the governor's orders to follow.

An hour later and the entire population of twenty-two had met in the chamber adjoining the gourbi. Young Pablo made his first acquaintance with little Nina, and the child seemed highly delighted to find a companion so nearly of her own age. Leaving the children to entertain each other, Captain Servadac began his address.

Before entering upon further explanation, he said that he counted upon the cordial co-operation of them all for the common welfare.

Negrete interrupted him by declaring that no promises or pledges could be given until he and his countrymen knew how soon they could be sent back to Spain.

"To Spain, do you say?" asked Servadac.

"To Spain!" echoed Isaac Hakkabut, with a hideous yell. "Do they expect to go back to Spain till they have paid their debts? Your Excellency, they owe me twenty reals apiece for their passage here; they owe me two hundred reals. Are they to be allowed . . . ?"

"Silence Mordecai, you fool!" shouted Ben Zoof, who was accustomed to call the Jew by any Hebrew name that came uppermost to his memory. "Silence!"

Servadac was disposed to appease the old man's anxiety by promising to see that justice was ultimately done; but, in a fever of frantic excitement, he went on to implore that he might have the loan of a few sailors to carry his ship to Algiers.

"I will pay you honestly; I will pay you *well*," he cried; but his ingrained propensity for making a good bargain prompted him to add, "provided you do not overcharge me."

Ben Zoof was about again to interpose some angry exclamation; but Servadac checked him, and continued in Spanish: "Listen to me, my friends. Something very strange has happened. A most wonderful event has cut us off from Spain, from France, from Italy, from every country of Europe. In fact, we have left the Old World entirely. Of the whole earth, nothing remains except this island on which you are now taking refuge. The old globe is far, far away. Our present abode is but an insignificant fragment that is left. I dare not tell you that there is any chance of your ever again seeing your country or your homes."

He paused. The Spaniards evidently had no conception of his meaning.

Negrete begged him to tell them all again. He repeated all that he had said, and by introducing some illustrations from familiar things, he succeeded to a certain extent in conveying some faint idea of the convulsion that had happened. The event was precisely what he had foretold. The communication was received by all alike with the most supreme indifference.

Hakkabut did not say a word. He had listened with manifest attention, his lips twitching now and then as if suppressing a smile. Servadac turned to him, and asked whether he was still disposed to put out to sea and make for Algiers.

The Jew gave a broad grin, which, however, he was careful to conceal from the Spaniards. "Your Excellency jests," he said in French; and turning to Count Timascheff, he added in Russian: "The governor has made up a wonderful tale."

The count turned his back in disgust, while the Jew sidled up to little Nina and muttered in Italian. "A lot of lies, pretty one; a lot of lies!"

"Confound the knave!" exclaimed Ben Zoof; "he gabbles every tongue under the sun!"

"Yes," said Servadac; "but whether he speaks French, Russian, Spanish, German, or Italian, he is neither more nor less than a Jew."

CHAPTER XX

A LIGHT ON THE HORIZON

On the following day, without giving himself any further concern about the Jew's incredulity, the captain gave orders for the *Hansa* to be shifted round to the harbor of the Shelif. Hakkabut raised no objection, not only because he was aware that the move insured the immediate safety of his tartan, but because he was secretly entertaining the hope that he might entice away two or three of the *Dobryna's* crew and make his escape to Algiers or some other port.

Operations now commenced for preparing proper winter quarters. Spaniards and Russians alike joined heartily in the work, the diminution of atmospheric pressure and of the force of attraction contributing such an increase to their muscular force as materially facilitated all their labors.

The first business was to accommodate the building adjacent to the gourbi to the wants of the little colony. Here for the present the Spaniards were

lodged, the Russians retaining their berths upon the yacht, while the Jew was permitted to pass his nights upon the *Hansa*. This arrangement, however, could be only temporary. The time could not be far distant when ships' sides and ordinary walls would fail to give an adequate protection from the severity of the cold that must be expected; the stock of fuel was too limited to keep up a permanent supply of heat in their present quarters, and consequently they must be driven to seek some other refuge, the internal temperature of which would at least be bearable.

The plan that seemed to commend itself most to their consideration was, that they should dig out for themselves some subterraneous pits similar to "silos," such as are used as receptacles for grain. They presumed that when the surface of Gallia should be covered by a thick layer of ice, which is a bad conductor of heat, a sufficient amount of warmth for animal vitality might still be retained in excavations of this kind. After a long consultation they failed to devise any better expedient, and were forced to resign themselves to this species of troglodyte existence.

In one respect they congratulated themselves that they should be better off than many of the whalers in the polar seas, for as it is impossible to get below the surface of a frozen ocean, these adventurers have to seek refuge in huts of wood and snow erected on their ships, which at best can give but slight protection from extreme cold; but here, with a solid subsoil, the Gallians might hope to dig down a hundred feet or so and secure for themselves a shelter that would enable them to brave the hardest severity of climate.

The order, then, was at once given. The work was commenced. A stock of shovels, mattocks, and pick-axes was brought from the gourbi, and with Ben Zoof as overseer, both Spanish majos and Russian sailors set to work with a will.

It was not long, however, before a discovery, more unexpected than agreeable, suddenly arrested their labors. The spot chosen for the excavation was a little to the right of the gourbi, on a slight elevation of the soil. For the first day everything went on prosperously enough; but at a depth of eight feet below the surface, the navvies came in contact with a hard surface, upon which all their tools failed to make the slightest impression. Servadac and the count were at once apprised of the fact, and had little difficulty in recognizing the substance that had revealed itself as the very same which composed the shores as well as the subsoil of the Gallian sea. It evidently formed the universal substructure of the new asteroid. Means for hollowing it failed them utterly. Harder and more resisting than granite, it could not be blasted by ordinary powder; dynamite alone could suffice to rend it.

The disappointment was very great. Unless some means of protection were speedily devised, death seemed to be staring them in the face. Were the figures in the mysterious documents correct? If so, Gallia must now be a hundred millions of leagues from the sun, nearly three times the distance of the earth at the remotest section of her orbit. The intensity of the solar light and heat, too, was very seriously diminishing, although Gourbi Island (being on the equator of an orb which had its axis always perpendicular to the plane in which it revolved) enjoyed a position that gave it a permanent summer. But no advantage of this kind could compensate for the remoteness of the sun. The temperature fell steadily; already, to the discomfiture of the little Italian girl, nurtured in sunshine, ice was beginning to form in the crevices of the rocks, and manifestly the time was impending when the sea itself would freeze.

Some shelter must be found before the temperature should fall to 60° below zero. Otherwise death was inevitable. Hitherto, for the last few days, the thermometer had been registering an average of about 6° below zero, and it had become matter of experience that the stove, although replenished with all the wood that was available, was altogether inadequate to effect any sensible mitigation of the severity of the cold. Nor could any amount of fuel be enough. It was certain that ere long the very mercury and spirit in the thermometers would be congealed. Some other resort must assuredly be soon found, or they must perish. That was clear.

The idea of betaking themselves to the *Dobryna* and *Hansa* could not for a moment be seriously entertained; not only did the structure of the vessels make them utterly insufficient to give substantial shelter, but they were totally unfitted to be trusted as to their stability when exposed to the enormous pressure of the accummulated ice.

Neither Servadac, nor the count, nor Lieutenant Procope were men to be easily disheartened, but it could not be concealed that they felt themselves in circumstances by which they were equally harassed and perplexed. The sole expedient that their united counsel could suggest was to obtain a refuge below ground, and *that* was denied them by the strange and impenetrable substratum of the soil; yet hour by hour the sun's disc was lessening in its dimensions, and although at midday some faint radiance and glow were to be distinguished, during the night the painfulness of the cold was becoming almost intolerable.

Mounted upon Zephyr and Galette, the captain and the count scoured the island in search of some available retreat. Scarcely a yard of ground was left unexplored, the horses clearing every obstacle as if they were, like Pegasus, furnished with wings. But all in vain. Soundings were made again and again, but invariably with the same result; the rock, hard as adamant, never failed to reveal itself within a few feet of the surface of the ground.

The excavation of any silo being thus manifestly hopeless, there seemed nothing to be done except to try and render the buildings alongside the gourbi impervious to frost. To contribute to the supply of fuel, orders were given to collect every scrap of wood, dry or green, that the island produced; and this involved the necessity of felling the numerous trees that were scattered over the plain. But toil as they might at the accumulation of firewood, Captain Servadac and his companions could not resist the conviction that the consumption of a very short period would exhaust the total stock. And what would happen then?

Studious if possible to conceal his real misgivings, and anxious that the rest of the party should be affected as little as might be by his own uneasiness, Servadac would wander alone about the island, racking his brain for an idea that would

point the way out of the serious difficulty. But still all in vain.

One day he suddenly came upon Ben Zoof, and asked him whether he had no plan to propose. The orderly shook his head, but after a few moments' pondering, said: "Ah! master, if only we were at Montmartre, we would get shelter in the charming stone-quarries."

"Idiot!" replied the captain, angrily, "if we were at Montmartre, you don't suppose that we should need to live in stone-quarries?"

But the means of preservation which human ingenuity had failed to secure were at hand from the felicitous provision of Nature herself. It was on the 10th of March that the captain and Lieutenant Procope started off once more to investigate the northwest corner of the island; on their way their conversation naturally was engrossed by the subject of the dire necessities which only too manifestly were awaiting them. A discussion more than usually animated arose between them, for the two men were not altogether of the same mind as to the measures that ought to be adopted in order to open the fairest chance of avoiding a fatal climax to their exposure; the captain persisted that an entirely new abode must be sought, while the lieutenant was equally bent upon devising a method of some sort by which their present quarters might be rendered sufficiently warm. All at once, in the very heat of his argument, Procope paused; he passed his hand across his eyes, as if to dispel a mist, and stood, with a fixed gaze centered on a point towards the south. "What is that?" he said, with a kind of hesitation. "No, I am not mistaken," he added; "it is a light on the horizon."

"A light!" exclaimed Servadac; "show me where."

"Look there!" answered the lieutenant, and he kept pointing steadily in its direction, until Servadac also distinctly saw the bright speck in the distance.

It increased in clearness in the gathering shades of evening. "Can it be a ship?" asked the captain.

"If so, it must be in flames; otherwise we should not be able to see it so far off," replied Procope.

"It does not move," said Servadac;" and unless I am greatly deceived, I can hear a kind of reverberation in the air."

For some seconds the two men stood straining eyes and ears in rapt attention. Suddenly an idea struck Servadac's mind. "The volcano!" he cried; "may it not be the volcano that we saw, whilst we were on board the *Dobryna?*"

The lieutenant agreed that it was very probable.

"Heaven be praised!" ejaculated the captain, and he went on in the tones of a keen excitement: "Nature has provided us with our winter quarters; the stream of burning lava that is flowing there is the gift of a bounteous Providence; it will provide us all the warmth we need. No time to lose! To-morrow, my dear Procope, to-morrow we will explore it all; no doubt the life, the heat we want is reserved for us in the heart and bowels of our own Gallia!"

Whilst the captain was indulging in his expressions of enthusiasm, Procope was endeavoring to collect his thoughts. Distinctly he remembered the long promontory which had barred the *Dobryna's* progress while coasting the southern confines of the sea, and which had obliged her to ascend northwards as far as the former latitude of Oran; he remembered also that at the extremity of the promontory there was a rocky headland crowned with smoke; and now he was convinced that he was right in identifying the position, and in believing that the smoke had given place to an eruption of flame.

When Servadac gave him a chance of speaking, he said, "The more I consider it, captain, the more I am satisfied that your conjecture is correct. Beyond a doubt, what we see is the volcano, and to-morrow we will not fail to visit it."

On returning to the gourbi, they communicated their discovery to Count Timascheff only, deeming any further publication of it to be premature. The count at once placed his yacht at their disposal, and expressed his intention of accompanying them.

"The yacht, I think," said Procope, "had better remain where she is; the weather is beautifully calm, and the steam-launch will answer our purpose better; at any rate, it will convey us much closer to shore than the schooner."

The count replied that the lieutenant was by all means to use his own discretion, and they all retired for the night.

Like many other modern pleasure-yachts, the *Dobryna,* in addition to her four-oar, was fitted with a fast-going little steam-launch, its screw being propelled, on the Oriolle system, by mean of a boiler, small but very effective. Early next morning, this handy little craft was sufficiently freighted with coal (of which there was still about ten tons on board the *Dobryna*), and manned by nobody except the captain, the count, and the lieutenant, left the harbor of the Shelif, much to the bewilderment of Ben Zoof, who had not yet been admitted into the secret. The orderly, however, consoled himself with the reflection that he had been temporarily invested with the full powers of governor general, an office of which he was not a little proud.

The eighteen miles between the island and the headland were made in something less than three hours. The volcanic eruption was manifestly very considerable, the entire summit of the promontory being enveloped in flames. To produce so large a combustion either the oxygen of Gallia's atmosphere had been brought into contact with the explosive gases contained beneath her soil, or perhaps, still more probable, the volcano, like those in the moon, was fed by an internal supply of oxygen of her own.

It took more than half an hour to settle on a suitable landing-place. At length, a small semicircular creek was discovered among the rocks, which appeared advantageous, because, if circumstances should so require, it would form a safe anchorage for both the *Dobryna* and the *Hansa.*

The launch securely moored, the passengers landed on the side of the promontory opposite to that on which a torrent of flaming lava was descending to the sea. With much satisfaction they experienced, as they approached the mountain, a sensible difference in the temperature, and their spirits could not do otherwise than rise at the prospect of having their hopes confirmed, that a deliverance from the threatened calamity had so opportunely been found. On they went, up the steep acclivity, scrambling over its rugged projections, scaling the irregularities of its gigantic strata, bounding from point to point with the agility of chamois, but never alighting on anything except

the accumulation of the same hexagonal prisms with which they had now become so familiar.

Their exertions were happily rewarded. Behind a huge pyramid rock they found a hole in the mountain-side, like the mouth of a great tunnel. Climbing up to this orifice, which was more than sixty feet above the level of the sea, they ascertained that it opened into a long dark gallery. They entered and groped their way cautiously along the sides. A continuous rumbling, that increased as they advanced, made them aware that they must be approaching the central funnel of the volcano; their only fear was lest some insuperable wall of rock should suddenly bar their further progress.

Servadac was some distance ahead.

"Come on!" he cried cheerily, his voice ringing through the darkness, "come on! Our fire is lighted! no stint of fuel! Nature provides that! Let us make haste and warm ourselves!"

Inspired by his confidence, the count and the lieutenant advanced bravely along the unseen and winding path. The temperature was now at least fifteen degrees above zero, and the walls of the gallery were beginning to feel quite warm to the touch, an indication, not to be overlooked, that the substance of which the rock was composed was metallic in its nature, and capable of conducting heat.

"Follow me!" shouted Servadac again; "we shall soon find a regular stove!"

Onwards they made their way, until at last a sharp turn brought them into a sudden flood of light. The tunnel had opened into a vast cavern, and the gloom was exchanged for an illumination that was perfectly dazzling. Although the temperature was high, it was not in any way intolerable.

One glance was sufficient to satisfy the explorers that the grateful light and heat of this huge excavation were to be attributed to a torrent of lava that was rolling downwards to the sea, completely subtending the aperture of the cave. Not inaptly might the scene be compared to the celebrated Grotto of the Winds at the rear of the central fall of Niagara, only with the exception that here, instead of a curtain of rushing water, it was a curtain of roaring flame that hung before the cavern's mouth.

"Heaven be praised!" cried Servadac, with glad emotion; "here is all that we hoped for, and more besides!"

CHAPTER XXI

WINTER QUARTERS

The habitation that had now revealed itself, well lighted and thoroughly warm, was indeed marvelous. Not only would it afford ample accommodation for Hector Servadac and "his subjects," as Ben Zoof delighted to call them, but it would provide shelter for the two horses, and for a considerable number of domestic animals.

This enormous cavern was neither more or less than the common junction of nearly twenty tunnels (similar to that which had been traversed by the explorers), forming ramifications in the solid rock, and the pores, as it were, by which the internal heat exuded from the heart of the mountain. Here, as long as the volcano retained its activity, every living creature on the new asteroid might brave the most rigorous of climates; and as Count Timascheff justly remarked, since it was the only burning mountain they had sighted, it was most probably the sole outlet for Gallia's subterranean fires, and consequently the eruption might continue unchanged for ages to come.

But not a day, not an hour, was to be lost now. The steam-launch returned to Gourbi Island, and preparations were forthwith taken in hand for conveying man and beast, corn and fodder, across to the volcanic headland. Loud and hearty were the acclamations of the little colony, especially of the Spaniards, and great was the relief of Nina, when Servadac announced to them the discovery of their future domicile; and with requickened energies they labored hard at packing, anxious to reach their genial winter quarters without delay.

For three successive days the *Dobryna*, laden to her very gunwale, made a transit to and fro. Ben Zoof was left upon the island to superintend the stowage of the freight, whilst Servadac found abundant occupation in overlooking its disposal within the recesses of the mountain. First of all, the large store of corn and fodder, the produce of the recent harvest, was landed and deposited in one of the vaults, then, on the 15th, about fifty head of live cattle—bullocks, cows, sheep, and pigs—were conveyed to their rocky stalls. These were saved for the sake of preserving the several breeds, the bulk of the island cattle being slaughtered, as the extreme severity of the climate insured all meat remaining fresh for almost an indefinite period. The winter which they were expecting would probably be of unprecedented length; it was quite likely that it would exceed the six months' duration by which many arctic explorers have been tried; but the population of Gallia had no anxiety in the matter of provisions—their stock was far more than adequate; while as for drink, as long as they were satisfied with pure water, a frozen sea would afford them an inexhaustible reservoir.

The need for haste in forwarding their preparations became more and more manifest; the sea threatened to be unnavigable very soon, as ice was already forming which the noonday sun was unable to melt. And if haste were necessary, so also were care, ingenuity, and forethought. It was indispensable that the space at their command should be properly utilized, and yet that the several portions of the store should all be readily accessible.

On further investigation an unexpected number of galleries was discovered, so that, in fact, the interior of the mountain was like a vast bee-hive perforated with innumerable cells; and in compliment to the little Italian it was unanimously voted by the colony that their new home should be called "Nina's Hive."

The first care of Captain Servadac was to ascertain how he could make the best possible use of the heat which nature had provided for them so opportunely and with so lavish a hand. By opening fresh vents in the solid rock (which by the action of the heat was here capable of fissure) the stream of burning lava was diverted into several new channels, where it could be available for daily use; and thus Mochel, the *Dobryna's* cook, was furnished with an admirable kitchen, provided with a permanent stove, where he was duly installed with all his culinary apparatus.

"What a saving of expense it would be," ex-

claimed Ben Zoof, "if every household could be furnished with its own private volcano!"

The large cavern at the general junction of the galleries was fitted up as a drawing-room, and arranged with all the best furniture both of the gourbi and of the cabin of the *Dobryna*. Hither was also brought the shooner's library, containing a good variety of French and Russian books; lamps were suspended over the different tables; and the walls of the apartment were tapestried with the sails and adorned with the flags belonging to the yacht. The curtain of fire extending over the opening of the cavern provided it, as already stated, with light and heat.

The torrent of lava fell into a small rock-bound basin that had no apparent communication with the sea, and was evidently the aperture of a deep abyss, of which the waters, heated by the descent of the eruptive matter, would no doubt retain their liquid condition long after the Gallian Sea had become a sheet of ice.

A small excavation to the left of the common hall was allotted for the special use of Servadac and the count; another on the right was appropriated to the lieutenant and Ben Zoof; whilst a third recess, immediately at the back, made a convenient little chamber for Nina. The Spaniards and the Russian sailors took up their sleeping-quarters in the adjacent galleries, and found the temperature quite comfortable.

Such were the internal arrangements of Nina's Hive, the refuge where the little colony were full of hope that they would be able to brave the rigors of the stern winter-time that lay before them—a winter-time during which Gallia might possibly be projected even to the orbit of Jupiter, where the temperature would not exceed one twenty-fifth of the normal winter temperature of the earth.

The only discontented spirit was Isaac Hakkabut. Throughout all the preparations which roused even the Spaniards to activity, the Jew, still incredulous and deaf to every representation of the true state of things, insisted upon remaining in the creek at Gourbi Island; nothing could induce him to leave his tartan, where, like a miser, he would keep guard over his precious cargo, ever grumbling and growling, but with his weather-eye open in the hope of catching sight of some passing sail. It must be owned that the whole party were far from sorry to be relieved of his presence; his uncomely figure and repulsive countenance was a perpetual bugbear. He had given out in plain terms that he did not intend to part with any of his property, except for current money; and Servadac, equally resolute, had strictly forbidden any purchases to be made, hoping to wear out the rascal's obstinacy.

Hakkabut persistently refused to credit the real situation; he could not absolutely deny that some portions of the terrestrial globe had undergone a certain degree of modification, but nothing could bring him to believe that he was not, sooner or later, to resume his old line of business in the Mediterranean. With his wonted distrust of all with whom he came in contact, he regarded every argument that was urged upon him only as evidence of a plot that had been devised to deprive him of his goods. Repudiating, as he did utterly, the hypothesis that a fragment had beome detached from the earth, he scanned the horizon for hours together with an old telescope, the case of which had been patched up till it looked like a rusty stove-pipe, hoping to descry the passing trader with which he might effect some bartering upon advantageous terms.

At first he professed to regard the proposed removal into winter-quarters as an attempt to impose upon his credulity; but the frequent voyages made by the *Dobryna* to the south, and the repeated consignments of corn and cattle, soon served to make him aware that Captain Servadac and his companions were really contemplating a departure from Gourbi Island.

The movement set him thinking. What, he began to ask himself—what if all that was told him was true? What if this sea was no longer the Mediterranean? What if he should never again behold his German fatherland? What if his marts for business were gone for ever? A vague idea of ruin began to take possession of his mind: he must yield to necessity; he must do the best he could. As the result of his cogitations, he occasionally left his tartan and made a visit to the shore. At length he endeavored to mingle with the busy group, who were hurrying on their preparations; but his advances were only met by jeers and scorn, and, ridiculed by all the rest, he was fain to turn his attention to Ben Zoof, to whom he offered a few pinches of tobacco.

"No, old Zebulon," said Ben Zoof, steadily refusing the gift, "it is against orders to take anything from you. Keep your cargo to yourself; eat and drink it all if you can; we are not to touch it."

Finding the subordinates incorruptible, Isaac determined to go to the fountain-head. He addressed himself to Servadac, and begged him to tell him the whole truth, piteously adding that surely it was unworthy of a French officer to deceive a poor old man like himself.

"Tell you the truth, man!" cried Servadac. "Confound it, I have told you the truth twenty times. Once for all, I tell you now, you have left yourself barely time enough to make your escape to yonder mountain."

"God and Mahomet have mercy on me!" muttered the Jew, whose creed frequently assumed a very ambiguous character.

"I will tell you what," continued the captain—"you shall have a few men to work the *Hansa* across, if you like."

"But I want to go to Algiers," whispered Hakkabut.

"How often am I to tell you that Algiers is no longer in existence ? Only say yes or no—are you coming with us into winter-quarters?"

"God of Israel! what is to become of all my property?"

"But, mind you," continued the captain, not heeding the interruption, "if you do not choose voluntarily to come with us, I shall have the *Hansa*, by my orders, removed to a place of safety. I am not going to let your cursed obstinancy incur the risk of losing your cargo altogether."

"Merciful Heaven! I shall be ruined!" moaned Isaac, in despair.

"You are going the right way to ruin yourself and it would serve you right to leave you to your own devices. But be off! I have no more to say."

And, turning contemptuously on his heel, Servadac left the old man vociferating bitterly, and with uplifted hands protesting vehemently against the rapacity of the Gentiles.

By the 20th all preliminary arrangements were complete, and everything ready for a final departure from the island. The thermometer stood on an average at 8° below zero, and the water in the cistern was completely frozen. It was determined, therefore, for the colony to embark on the following day, and take up their residence in Nina's Hive.

A final consultation was held about the *Hansa*. Lieutenant Procope pronounced his decided conviction that it would be impossible for the tartan to resist the pressure of the ice in the harbor of the Shelif, and that there would be far more safety in the proximity of the volcano. It was agreed on all hands that the vessel must be shifted; and accordingly orders were given, four Russian sailors were sent on board, and only a few minutes elapsed after the *Dobryna* had weighed anchor, before the great lateen sail of the tartan was unfurled, and the "shop-ship," as Ben Zoof delighted to call it, was also on her way to the southward.

Long and loud were the lamentations of the Jew. He kept exclaiming that he had given no orders, that he was being moved against his will, that he had asked for no assistance, and needed none; but it required no very keen discrimination to observe that all along there was a lurking gleam of satisfaction in his little gray eyes, and when, a few hours later, he found himself securely anchored, and his property in a place of safety, he quite chuckled with glee.

"God of Israel!" he said in an undertone, "they have made no charge; the idiots have piloted me here for nothing."

For nothing! His whole nature exulted in the consciousness that he was enjoying a service that had been rendered gratuitously.

Destitute of human inhabitants, Gourbi Island was now left to the tenancy of such birds and beasts as had escaped the recent promiscuous slaughter. Birds, indeed, that had migrated in search of warmer shores, had returned, proving that this fragment of the French colony was the only shred of land that could yield them any sustenance; but their life must necessarily be short. It was utterly impossible that they could survive the cold that would soon ensue.

The colony took possession of their new abode with but few formalities. Everyone, however, approved of all the internal arrangements of Nina's Hive, and were profuse in their expressions of satisfaction at finding themselves located in such comfortable quarters. The only malcontent was Hakkabut; he had no share in the general enthusiasm, refused even to enter or inspect any of the galleries, and insisted on remaining on board his tartan.

"He is afraid," said Ben Zoof, "that he will have to pay for his lodgings. But wait a bit; we shall see how he stands the cold out there; the frost, no doubt, will drive the old fox out of his hole."

Towards evening the pots were set boiling, and a bountiful supper, to which all were invited, was spread in the central hall. The stores of the *Dobryna* contained some excellent wine, some of which was broached to do honor to the occasion. The health of the governor general was drunk, as well as the toast "Success to his council," to which Ben Zoof was called upon to return thanks. The entertainment passed off merrily. The Spaniards were in the best of spirits; one of them played the guitar, another the castanets, and the rest joined in a ringing chorus. Ben Zoof contributed the famous Zouave refrain, well known throughout the French army, but rarely performed in finer style than by this *virtuoso*:

"'Misti goth dar dar tire lyre!
Flic! floc! flac! lirette, lira!
Far la rira,
Tour tala rire,
Tour la Ribaud,
Ricandeau,
Sans repos, répit, répit, repos, ris pot, ripette!
Si vous attrapez mon refrain,
Fameux vous êtes."

The concert was succeeded by a ball, unquestionably the first that had ever taken place in Gallia. The Russian sailors exhibited some of their national dances, which gained considerable applause, even though they followed upon the marvelous fandangos of the Spaniards. Ben Zoof, in his turn, danced a *pas seul* (often performed in the Elysée Montmartre) with an elegance and vigor that earned many compliments from Negrete.

It was nine o'clock before the festivities came to an end, and by that time the company, heated by the high temperature of the hall, and by their own exertions, felt the want of a little fresh air. Accordingly the greater portion of the party, escorted by Ben Zoof, made their way into one of the adjacent galleries that led to the shore. Servadac, with the count and lieutenant, did not follow immediately; but shortly afterwards they proceeded to join them, when on their way they were startled by loud cries from those in advance.

Their first impression was that they were cries of distress, and they were greatly relieved to find that they were shouts of delight, which the dryness and purity of the atmosphere caused to re-echo like a volley of musketry.

Reaching the mouth of the gallery, they found the entire group pointing with eager interest to the sky.

"Well, Ben Zoof," asked the captain, "what's the matter now?"

"Oh, your Excellency," ejaculated the orderly, "look there! look there! The moon! the moon's come back!"

And, sure enough, what was apparently the moon was rising above the mists of evening.

CHAPTER XXII

A FROZEN OCEAN

THE moon! She had disappeared for weeks; was she now returning? Had she been faithless to the earth? and had she now approached to be a satellite of the new-born world?

"Impossible!" said Lieutenant Procope; "the earth is millions and millions of leagues away, and it is not probable that the moon has ceased to revolve about her."

"Why not?" remonstrated Servadac. "It would not be more strange than the other phenomena which we have lately witnessed. Why should not

the moon have fallen within the limits of Gallia's attraction, and become her satellite?"

"Upon that supposition," put in the count, "I should think that it would be altogether unlikely that three months would elapse without our seeing her."

"Quite incredible!" continued Procope. "And there is another thing which totally disproves the captain's hypothesis; the magnitude of Gallia is far too insignificant for her power of attraction to carry off the moon."

"But," persisted Servadac, "why should not the same convulsion that tore us away from the earth have torn away the moon as well? After wandering about as she would for a while in the solar regions, I do not see why she should not have attached herself to us."

The lieutenant repeated his conviction that it was not likely.

"But why not?" again asked Servadac impetuously.

"Because, I tell you, the mass of Gallia is so inferior to that of the moon, that Gallia would become the moon's satellite; the moon could not possibly become hers."

"Assuming, however," continued Servadac, "such to be the case——"

"I am afraid," said the lieutenant, interrupting him, "that I cannot assume anything of the sort even for a moment."

Servadac smiled good-humoredly.

"I confess you seem to have the best of the argument, and if Gallia had become a satellite of the moon, it would not have taken three months to catch sight of her. I suppose you are right."

While this discussion had been going on, the satellite, or whatever it might be, had been rising steadily above the horizon, and had reached a position favorable for observation. Telescopes were brought, and it was very soon ascertained, beyond a question, that the new luminary was not the well-known Phœbe of terrestrial nights; it had no feature in common with the moon. Although it was apparently much nearer to Gallia than the moon to the earth, its superficies was hardly one-tenth as large, and so feebly did it reflect the light of the remote sun, that it scarcely emitted radiance enough to extinguish the dim luster of stars of the eighth magnitude. Like the sun, it had risen in the west, and was now at its full. To confuse its identity with the moon was absolutely impossible; not even Servadac could discover a trace of the seas, chasms, craters, and mountains which have been so minutely delineated in lunar charts; and it could not be denied that any transient hope that had been excited as to their once again being about to enjoy the peaceful smiles of "the queen of night" must all be given up.

Count Timascheff finally suggested, though somewhat doubtfully, the question of the probability that Gallia, in her course across the zone of the minor planets, had carried off one of them; but whether it was one of the 169 asteroids already included in the astronomical catalogues, or one previously unknown, he did not presume to determine. The idea to a certain extent was plausible, inasmuch as it has been ascertained that several of the telescopic planets are of such small dimensions that a good walker might make a circuit of them in four and twenty hours; consequently Gallia, being of superior volume, might be supposed capable of exercising a power of attraction upon any of these miniature microcosms.

The first night in Nina's Hive passed without special incident; and next morning a regular scheme of life was definitely laid down. "My lord governor," as Ben Zoof, until he was peremptorily forbidden, delighted to call Servadac, had a wholesome dread of idleness and its consequences, and insisted upon each member of the party undertaking some special duty to fulfill. There was plenty to do. The domestic animals required a great deal of attention; a supply of food had to be secured and preserved; fishing had to be carried on while the condition of the sea would allow it; and in several places the galleries had to be further excavated to render them more available for use. Occupation, then, need never be wanting, and the daily round of labor could go on in orderly routine.

A perfect concord ruled the little colony. The Russians and Spaniards amalgamated well, and both did their best to pick up various scraps of French, which was considered the official language of the place. Servadac himself undertook the tuition of Pablo and Nina, Ben Zoof being their companion in play-hours, when he entertained them with enchanting stories in the best Parisian French, about "a lovely city at the foot of a mountain," where he always promised one day to take them.

The end of March came, but the cold was not intense to such a degree as to confine any of the party to the interior of their resort; several excursions were made along the shore, and for a radius of three or four miles the adjacent district was carefully explored. Investigation, however, always ended in the same result; turn their course in whatever direction they would, they found that the country retained everywhere its desert character, rocky, barren, and without a trace of vegetation. Here and there a slight layer of snow or a thin coating of ice arising from atmospheric condensation indicated the existence of superficial moisture, but it would require a period indefinitely long, exceeding human reckoning, before that moisture could collect into a stream and roll downwards over the stony strata to the sea. It seemed at present out of their power to determine whether the land upon which they were so happily settled was an island or a continent, and till the cold was abated they feared to undertake any lengthened expedition to ascertain the actual extent of the strange concrete of metallic crystallization.

By ascending one day to the summit of the volcano, Captain Servadac and the count succeeded in getting a general idea of the aspect of the country. The mountain itself was an enormous block rising symmetrically to a height of nearly 3,000 feet above the level of the sea, in the form of a truncated cone, of which the topmost section was crowned by a wreath of smoke issuing continuously from the mouth of a narrow crater.

Under the old condition of terrestrial things, the ascent of this steep acclivity would have been attended with much fatigue, but as the effect of the altered condition of the law of gravity, the travelers performed perpetual prodigies in the way of agility, and in little over an hour reached the edge of the crater, without more sense of exertion than if they

had traversed a couple of miles on level ground. Gallia had its drawbacks, but it had some compensating advantages.

Telescopes in hand, the explorers from the summit scanned the surrounding view. Their anticipations had already realized what they saw. Just as they expected, on the north, east, and west lay the Gallian Sea, smoothed and motionless as a sheet of glass, the cold having, as it were, congealed the atmosphere so that there was not a breath of wind. Towards the south there seemed no limit to the land, and the volcano formed the apex of a triangle, of which the base was beyond the reach of vision. Viewed even from this height, whence distance would do much to soften the general asperity, the surface nevertheless seemed to be bristling with its myriads of hexagonal lamellæ, and to present difficulties which, to an ordinary pedestrian, would be insurmountable.

"Oh for some wings, or else a balloon!" cried Servadac, as he gazed around him; and then, looking down to the rock upon which they were standing, he added, "We seem to have been transplanted to a soil strange enough in its chemical character to bewilder the *savants* of a museum.'

"And do you observe, captain," asked the count, "how the convexity of our little world curtails our view? See, how circumscribed is the horizon!"

Servadac replied that he had noticed the same circumstance from the top of the cliffs of Gourbi Island.

"Yes," said the count; "it becomes more and more obvious that ours is a very tiny world, and that Gourbi Island is the sole productive spot upon its surface. We have had a short summer, and who knows whether we are not entering upon a winter that may last for years, perhaps for centuries?"

"But we must not mind, count," said Servadac, smiling. "We have agreed, you know, that, come what may, we are to be philosophers."

"Ay, true, my friend," rejoined the count; "we must be philosophers and something more; we must be grateful to the good Protector who has hitherto befriended us, and we must trust His mercy to the end."

For a few moments they both stood in silence, and contemplated land and sea; then, having given a last glance over the dreary panorama, they prepared to wend their way down the mountain. Before they commenced their descent, however, they resolved to make a closer examination of the crater. They were particularly struck by what seemed to them almost the mysterious calmness with which the eruption was effected. There was none of the wild disorder and deafening tumult that usually accompany the discharge of volcanic matter, but the heated lava, rising with a uniform gentleness, quietly overran the limits of the crater, like the flow of water from the bosom of a peaceful lake. Instead of a boiler exposed to the action of an angry fire, the crater rather resembled a brimming basin, of which the contents were noiselessly escaping. Nor were there any igneous stones or red-hot cinders mingled with the smoke that crowned the summit; a circumstance that quite accorded with the absence of the pumice-stones, obsidians, and other minerals of volcanic origin with which the base of a burning mountain is generally strewn.

Captain Servadac was of opinion that this peculiarity augured favorably for the continuance of the eruption. Extreme violence in physical, as well as in moral nature, is never of long duration. The most terrible storms, like the most violent fits of passion, are not lasting; but here the calm flow of the liquid fire appeared to be supplied from a source that was inexhaustible, in the same way as the waters of Niagara, gliding on steadily to their final plunge, would defy all effort to arrest their course.

Before the evening of this day closed in, a most important change was effected in the condition of the Gallian Sea by the intervention of human agency. Notwithstanding the increasing cold, the sea, unruffled as it was by a breath of wind, still retained its liquid state. It is an established fact that water, under this condition of absolute stillness, will remain uncongealed at a temperature several degrees below zero, whilst experiment, at the same time, shows that a very slight shock will often be sufficient to convert it into solid ice.

It had occurred to Servadac that if some communication could be opened with Gourbi Island, there would be a fine scope for hunting expeditions. Having this ultimate object in view, he assembled his little colony upon a projecting rock at the extremity of the promontory, and having called Nina and Pablo out to him in front, he said: "Now, Nina, do you think you could throw something into the sea?"

"I think I could," replied the child, "but I am sure that Pablo would throw it a great deal further than I can."

"Never mind, you shall try first."

Putting a fragment of ice into Nina's hand, he addressed himself to Pablo:

"Look out, Pablo; you shall see what a nice little fairy Nina is! Throw, Nina, throw, as hard as you can."

Nina balanced the piece of ice two or three times in her hand, and threw it forward with all her strength.

A sudden thrill seemed to vibrate across the motionless waters to the distant horizon, and the Gallian Sea had become a solid sheet of ice!

CHAPTER XXIII

A CARRIER-PIGEON

When, three hours after sunset, on the 23rd of March, the Gallian moon rose upon the western horizon, it was observed that she had entered upon her last quarter. She had taken only four days to pass from syzygy to quadrature, and it was consequently evident that she would be visible for little more than a week at a time, and that her lunation would be accomplished within sixteen days. The lunar months, like the solar days, had been diminished by one-half. Three days later the moon was in conjunction with the sun, and was consequently lost to view; Ben Zoof, as the first observer of the satellite, was extremely interested in its movements, and wondered whether it would ever reappear.

On the 26th, under an atmosphere perfectly clear and dry, the thermometer fell to 12° C. below zero. Of the present distance of Gallia from the sun, and the number of leagues she had traversed since the receipt of the last mysterious document, there were

no means of judging; the extent of diminution in the apparent disc of the sun did not afford sufficient basis even for an approximate calculation; and Captain Servadac was perpetually regretting that they could receive no further tidings from the anonymous correspondent, whom he persisted in regarding as a fellow-countryman.

The solidity of the ice was perfect; the utter stillness of the air at the time when the final congelation of the waters had taken place had resulted in the formation of a surface that for smoothness would rival a skating-rink; without a crack or flaw it extended far beyond the range of vision.

The contrast to the ordinary aspect of polar seas was very remarkable. There, the ice-fields are an agglomeration of hummocks and icebergs, massed in wild confusion, often towering higher than the masts of the largest whalers, and from the instability of their foundations liable to an instantaneous loss of equilibrium; a breath of wind, a slight modification of the temperature, not infrequently serving to bring about a series of changes outrivaling the most elaborate transformation scenes of a pantomime. Here, on the contrary, the vast white plain was level as the desert of Sahara or the Russian steppes; the waters of the Gallian Sea were imprisoned beneath the solid sheet, which became continually thicker in the increasing cold.

Accustomed to the uneven crystallizations of their own frozen seas, the Russians could not be otherwise than delighted with the polished surface that afforded them such excellent opportunity for enjoying their favorite pastime of skating. A supply of skates, found hidden away amongst the *Dobryna's* stores, was speedily brought into use. The Russians undertook the instruction of the Spaniards, and at the end of a few days, during which the temperature was only endurable through the absence of wind, there was not a Gallian who could not skate tolerably well, while many of them could describe figures involving the most complicated curves. Nina and Pablo earned loud applause by their rapid proficiency; Captain Servadac, an adept in athletics, almost outvied his instructor, the count; and Ben Zoof, who had upon some rare occasions skated upon the Lake of Montmartre (in his eyes, of course, a sea), performed prodigies in the art.

This exercise was not only healthful in itself, but it was acknowledged that, in case of necessity, it might become a very useful means of locomotion. As Captain Servadac remarked, it was almost a substitute for railways, and as if to illustrate this proposition, Lieutenant Procope, perhaps the greatest expert in the party, accomplished the twenty miles to Gourbi Island and back in considerably less than four hours.

The temperature, meanwhile, continued to decrease, and the average reading of the thermometer was about 16° C. below zero; the light also diminished in proportion, and all objects appeared to be enveloped in a half-defined shadow, as though the sun were undergoing a perpetual eclipse. It was not surprising that the effect of this continuously overhanging gloom should be to induce a frequent depression of spirits amongst the majority of the little population, exiles as they were from their mother earth, and not unlikely, as it seemed, to be swept far away into the regions of another planetary sphere. Probably Count Timaschaff, Captain Servadac, and Lieutenant Procope were the only members of the community who could bring any scientific judgment to bear upon the uncertainty that was before them, but a general sense of the strangeness of their situation could not fail at times to weigh heavily upon the minds of all. Under these circumstances it was very necessary to counteract the tendency to despond by continual diversion; and the recreation of skating thus opportunely provided, seemed just the thing to arouse the flagging spirits, and to restore a wholesome excitement.

With dogged obstinacy, Isaac Hakkabut refused to take any share either in the labors or the amusements of the colony. In spite of the cold, he had not been seen since the day of his arrival from Gourbi Island. Captain Servadac had strictly forbidden any communication with him; and the smoke that rose from the cabin chimney of the *Hansa* was the sole indication of the proprietor being still on board. There was nothing to prevent him, if he chose, from partaking gratuitously of the volcanic light and heat which were being enjoyed by all besides; but rather than abandon his close and personal oversight of his precious cargo, he preferred to sacrifice his own slender stock of fuel.

Both the schooner and the tartan had been carefully moored in the way that seemed to promise best for withstanding the rigor of the winter. After seeing the vessels made secure in the frozen creek, Lieutenant Procope, following the example of many Arctic explorers, had the precaution to have the ice beveled away from the keels, so that there should be no risk of the ships' sides being crushed by the increasing pressure; he hoped that they would follow any rise in the level of the ice-field, and when the thaw should come, that they would easily regain their proper water-line.

On his last visit to Gourbi Island, the lieutenant had ascertained that north, east, and west, far as the eye could reach, the Gallian Sea had become one uniform sheet of ice. One spot alone refused to freeze; this was the pool immediately below the central cavern, the receptacle for the stream of burning lava. It was entirely enclosed by rocks, and if ever a few icicles were formed there by the action of the cold, they were very soon melted by the fiery shower. Hissing and spluttering as the hot lava came in contact with it, the water was in a continual state of ebullition, and the fish that abounded in its depths defied the angler's craft; they were, as Ben Zoof remarked, "too much boiled to bite."

At the beginning of April the weather changed. The sky became overcast, but there was no rise in the temperature. Unlike the polar winters of the earth, which ordinarily are affected by atmospheric influence, and liable to slight intermissions of their severity at various shiftings of the wind, Gallia's winter was caused by her immense distance from the source of all light and heat, and the cold was consequently destined to go on steadily increasing until it reached the limit ascertained by Fourier to be the normal temperature of the realms of space.

With the over-clouding of the heavens there arose a violent tempest; but although the wind raged with an almost inconceivable fury, it was unaccompanied by either snow or rain. Its effect upon

the burning curtain that covered the aperture of the central hall was very remarkable. So far from there being any likelihood of the fire being extinguished by the vehemence of the current of air, the hurricane seemed rather to act as a ventilator, which fanned the flame into greater activity, and the utmost care was necessary to avoid being burnt by the fragments of lava that were drifted into the interior of the grotto. More than once the curtain itself was rifted entirely asunder, but only to close up again immediately after allowing a momentary draught of cold air to penetrate the hall in a way that was refreshing and rather advantageous than otherwise.

On the 4th of April, after an absence of about four days, the new satellite, to Ben Zoof's great satisfaction, made its reappearance in a crescent form, a circumstance that seemed to justify the anticipation that henceforward it would continue to make a periodic revolution every fortnight.

The crust of ice and snow was far too stout for the beaks of the strongest birds to penetrate, and accordingly large swarms had left the island, and, following the human population, had taken refuge on the volcanic promontory; not that there the barren shore had anything in the way of nourishment to offer them, but their instinct impelled them to haunt now the very habitations which formerly they would have shunned. Scraps of food were thrown to them from the galleries; these were speedily devoured, but were altogether inadequate in quantity to meet the demand. At length, emboldened by hunger, several hundred birds ventured through the tunnel, and took up their quarters actually in Nina's Hive. Congregating in the large hall, the half-famished creatures did not hesitate to snatch bread, meat, or food of any description from the hands of the residents as they sat at table, and soon became such an intolerable nuisance that it formed one of the daily diversions to hunt them down; but although they were vigorously attacked by stones and sticks, and even occasionally by shot, it was with some difficulty that their number could be sensibly reduced.

By a systematic course of warfare the bulk of the birds were all expelled, with the exception of about a hundred, which began to build in the crevices of the rocks. These were left in quiet possession of their quarters, as not only was it deemed advisable to perpetuate the various breeds, but it was found that these birds acted as a kind of police, never failing either to chase away or to kill any others of their species who infringed upon what they appeared to regard as their own special privilege in intruding within the limits of their domain.

On the 15th loud cries were suddenly heard issuing from the mouth of the principal gallery.

"Help, help! I shall be killed!"

Pablo in a moment recognized the voice as Nina's. Outrunning even Ben Zoof he hurried to the assistance of his little playmate, and discovered that she was being attacked by half a dozen great sea-gulls, and only after receiving some severe blows from their beaks could he succeed by means of a stout cudgel in driving them away.

"Tell me, Nina, what is this?" he asked as soon as the tumult had subsided.

The child pointed to a bird which she was caressing tenderly in her bosom.

"A pigeon!" exclaimed Ben Zoof, who had reached the scene of the commotion. "A carrier-pigeon! And by all the saints of Montmartre, there is a little bag attached to its neck!"

He took the bird, and rushing into the hall placed it in Servadac's hands.

"Another message, no doubt," cried the captain, "from our unknown friend. Let us hope that this time he has given us his name and address."

All crowded round, eager to hear the news. In the struggle with the gulls the bag had been partially torn open, but still contained the following dispatch:

"Gallia!"

Chemin parcouru du 1er Mars au 1er Avril: 39,000,000 1. !

Distance du soleil: 110,000,000 1. *!*

Capté Nérina en passant.

Vivres vont manquer et.. . ."

The rest of the document had been so damaged by the beaks of the gulls that it was illegible. Servadac was wild with vexation. He felt more and more convinced that the writer was a Frenchman, and that the last line indicated that he was in distress from scarcity of food. The very thought of a fellow-countryman in peril of starvation drove him well-nigh to distraction, and it was in vain that search was made everywhere near the scene of conflict in hopes of finding the missing scrap that might bear a signature or address.

Suddenly little Nina, who had again taken possession of the pigeon, and was hugging it to her breast, said:

"Look here, Ben Zoof!"

And as she spoke she pointed to the left wing of the bird.

The wing bore the faint impress of a postage stamp, and the one word:

"FORMENTERA."

CHAPTER XXIV

A SLEDGE-RIDE

Formentera was at once recognized by Servadac and the count as the name of one of the smallest of the Balearic Islands. It was more than probable that the unknown writer had thence sent out the mysterious documents, and from the message just come to hand by the carrier-pigeon, it appeared all but certain that at the beginning of April, a fortnight back, he had still been there. In one important particular the present communication differed from those that had preceded it: it was written entirely in French, and exhibited none of the ecstatic exclamations in other languages that had been remarkable in the two former papers. The concluding line, with its intimation of failing provisions, amounted almost to an appeal for help. Captain Servadac briefly drew attention to these points, and concluded by saying, "My friends, we must, without delay, hasten to the assistance of this unfortunate man."

"For my part," said the count, "I am quite ready to accompany you; it is not unlikely that he is not alone in his distress."

Lieutenant Procope expressed much surprise.

"We must have passed close to Formentera," he said, "when we explored the site of the Balearic

Isles; this fragment must be very small; it must be smaller than the remaining splinter of Gibraltar or Ceuta; otherwise, surely it would never have escaped our observation."

"However small it may be," replied Servadac, "we must find it. How far off do you suppose it is?"

"It must be a hundred and twenty leagues away," said the lieutenant, thoughtfully; "and I do not quite understand how you would propose to get there."

"Why, on skates of course; no difficulty in that, I should imagine," answered Servadac, and he appealed to the count for confirmation of his opinion.

The count assented, but Procope looked doubtful.

"Your enterprise is generous," he said, "and I should be most unwilling to throw any unnecessary obstacle in the way of its execution; but, pardon me, if I submit to you a few considerations which to my mind are very important. First of all, the thermometer is already down to 22° below zero, and the keen wind from the south is making the temperature absolutely unendurable; in the second place, supposing you travel at the rate of twenty leagues a day, you would be exposed for at least six consecutive days; and thirdly, your expedition will be of small avail unless you convey provisions not only for yourselves, but for those whom you hope to relieve."

"We can carry our own provisions on our backs in knapsacks," interposed Servadac, quickly, unwilling to recognize any difficulty in the way.

"Granted that you can," answered the lieutenant, quietly; "but where, on this level ice-field, will you find shelter in your periods of rest? You must perish with cold; you will not have the chance of digging out ice-huts like the Esquimaux."

"As to rest," said Servadac, "we shall take none; we shall keep on our way continuously; by traveling day and night without intermission, we shall not be more than three days in reaching Formentera."

"Believe me," persisted the lieutenant, calmly, "your enthusiasm is carrying you too far; the feat you propose is impossible; but even conceding the possibility of your success in reaching your destination, what service do you imagine that you, half-starved and half-frozen yourself, could render to those who are already perishing by want and exposure? you would only bring them away to die."

The obvious and dispassionate reasoning of the lieutenant could not fail to impress the minds of those who listened to him; the impracticability of the journey became more and more apparent; unprotected on that drear expanse, any traveler must assuredly succumb to the snow-drifts that were continually being whirled across it. But Hector Servadac, animated by the generous desire of rescuing a suffering fellow-creature, could scarcely be brought within the bounds of common sense. Against his better judgment he was still bent upon the expedition, and Ben Zoof declared himself ready to accompany his master in the event of Count Timascheff hesitating to encounter the peril which the undertaking involved. But the count entirely repudiated all idea of shrinking from what, quite as much as the captain, he regarded as a sacred duty, and turning to Lieutenant Procope, told him that unless some better plan could be devised, he was prepared to start off at once and make the attempt to skate across to Formentera. The lieutenant, who was lost in thought, made no immediate reply.

"I wish we had a sledge," said Ben Zoof.

"I dare say that a sledge of some sort could be contrived," said the count; "but then we should have no dogs or reindeers to draw it."

"Why not rough-shoe the two horses?"

"They would never be able to endure the cold," objected the count.

"Never mind," said Servadac, "let us get our sledge and put them to the test. Something must be done!"

"I think," said Lieutenant Procope, breaking his thoughtful silence, "that I can tell you of a sledge already provided for your hand, and I can suggest a motive power surer and swifter than horses."

"What do you mean?" was the eager inquiry.

"I mean the *Dobryna's* yawl," answered the lieutenant; "and I have no doubt that the wind would carry her rapidly along the ice."

The idea seemed admirable. Lieutenant Procope was well aware to what marvelous perfection the Americans had brought their sail-sledges, and had heard how in the vast prairies of the United States they had been known to outvie the speed of an express train, occasionally attaining a rate of more than a hundred miles an hour. The wind was still blowing hard from the south, and assuming that the yawl could be propelled with a velocity of about fifteen or at least twelve leagues an hour, he reckoned that it was quite possible to reach Formentera within twelve hours, that is to say, in a single day between the intervals of sunrise and sunrise.

The yawl was about twelve feet long, and capable of holding five or six people. The addition of a couple of iron runners would be all that was requisite to convert it into an excellent sledge, which, if a sail were hoisted, might be deemed certain to make a rapid progress over the smooth surface of the ice. For the protection of the passengers it was proposed to erect a kind of wooden roof lined with strong cloth; beneath this could be packed a supply of provisions, some warm furs, some cordials, and a portable stove to be heated by spirits of wine.

For the outward journey the wind was as favorable as could be desired; but it was to be apprehended that, unless the direction of the wind should change, the return would be a matter of some difficulty; a system of tacking might be carried out to a certain degree, but it was not likely that the yawl would answer her helm in any way corresponding to what would occur in the open sea. Captain Servadac, however, would not listen to any representation of probable difficulties; the future, he said, must provide for itself.

The engineer and several of the sailors set vigorously to work, and before the close of the day the yawl was furnished with a pair of stout iron runners, curved upwards in front, and fitted with a metal fin designed to assist in maintaining the directness of her course; the roof was put on, and beneath it were stored the provisions, the wraps, and the cooking utensils.

A strong desire was expressed by Lieutenant Procope that he should be allowed to accompany Captain Servadac instead of Count Timascheff. It was inadvisable for all three of them to go, as, in case of there being several persons to be rescued, the

space at their command would be quite inadequate. The lieutenant urged that he was the most experienced seaman, and as such was best qualified to take command of the sledge and the management of the sails; and as it was not to be expected that Servadac would resign his intention of going in person to relieve his fellow-countryman, Procope submitted his own wishes to the count. The count was himself very anxious to have his share in the philanthropic enterprise, and demurred considerably to the proposals; he yielded, however, after a time, to Servadac's representations that in the event of the expedition proving disastrous, the little colony would need his services alike as governor and protector, and overcoming his reluctance to be left out of the perilous adventure, was prevailed upon to remain behind for the general good of the community at Nina's Hive.

At sunrise on the following morning, the 16th of April, Captain Servadac and the lieutenant took their places in the yawl. The thermometer was more than 20° below zero, and it was with deep emotion that their companions beheld them thus embarking upon the vast white plain. Ben Zoof's heart was too full for words; Count Timascheff could not forbear pressing his two brave friends to his bosom; the Spaniards and the Russian sailors crowded round for a farewell shake of the hand, and little Nina, her great eyes flooded with tears, held up her face for a parting kiss. The sad scene was not permitted to last long. The sail was quickly hoisted, and the sledge, just as if it had expanded a huge white wing, was in a little while carried far away beyond the horizon.

Light and unimpeded, the yawl scudded on with incredible speed. Two sails, a mainsail and a jib, were arranged to catch the wind to the greatest advantage, and the travelers estimated that their progress would be little under the rate of twelve leagues an hour. The motion of their novel vehicle was singularly gentle, the oscillation being less than that of an ordinary railway-carriage, while the diminished force of gravity contributed to the swiftness. Except that the clouds of ice-dust raised by the metal runners were an evidence that they had not actually left the level surface of the ice, the captain and lieutenant might again and again have imagined that they were being conveyed through the air in a balloon.

Lieutenant Procope, with his head all muffled up for fear of frost-bite, took an occasional peep through an aperture that had been intentionally left in the roof, and by the help of a compass, maintained a proper and straight course for Formentera. Nothing could be more dejected than the aspect of that frozen sea; not a single living creature relieved the solitude; both the travelers, Procope from a scientific point of view, Servadac from an æsthetic, were alike impressed by the solemnity of the scene, and when the lengthened shadow of the sail cast upon the ice by the oblique rays of the setting sun had disappeared, and day had given place to night, the two men, drawn together as by an involuntary impulse, mutually held each other's hands in silence.

There had been a new moon on the previous evening; but, in the absence of moonlight, the constellations shone with remarkable brilliancy. The new pole-star close upon the horizon was resplendent, and even had Lieutenant Procope been destitute of a compass, he would have had no difficulty in holding his course by the guidance of that alone. However great was the distance that separated Gallia from the sun, it was after all manifestly insignificant in comparison with the remoteness of the nearest of the fixed stars.

Observing that Servadac was completely absorbed in his own thoughts, Lieutenant Procope had leisure to contemplate some of the present perplexing problems, and to ponder over the true astronomical position. The last of the three mysterious documents had represented that Gallia, in conformity with Kepler's second law, had traveled along her orbit during the month of March twenty millions of leagues less than she had done in the previous month; yet, in the same time, her distance from the sun had nevertheless been increased by thirty-two millions of leagues. She was now, therefore, in the center of the zone of telescopic planets that revolve between the orbits of Mars and Jupiter, and had captured for herself a satellite which, according to the document, was Nerina, one of the asterbids most recently identified. If thus, then, it was within the power of the unknown writer to estimate with such apparent certainty Gallia's exact position, was it not likely that his mathematical calculations would enable him to arrive at some definite conclusion as to the date at which she would begin again to approach the sun? Nay, was it not to be expected that he had already estimated, with sufficient approximation to truth, what was to be the true length of the Gallian year?

So intently had they each separately been following their own train of thought, that daylight reappeared almost before the travelers were aware of it. On consulting their instruments, they found that they must have traveled close upon a hundred leagues since they started, and they resolved to slacken their speed. The sails were accordingly taken in a little, and in spite of the intensity of the cold, the explorers ventured out of their shelter, in order that they might reconnoiter the plain, which was apparently as boundless as ever. It was completely desert; not so much as a single point of rock relieved the bare uniformity of its surface.

"Are we not considerably to the west of Formentera?" asked Servadac, after examining the chart.

"Most likely," replied Procope. "I have taken the same course as I should have done at sea, and I have kept some distance to windward of the island; we can bear straight down upon it whenever we like."

"Bear down then, now; and as quickly as you can.

The yawl was at once put with her head to the northeast, and Captain Servadac, in defiance of the icy blast, remained standing at the bow, his gaze fixed on the horizon.

All at once his eye brightened.

"Look! look!" he exclaimed, pointing to a faint outline that broke the monotony of the circle that divided the plain from the sky.

In an instant the lieutenant had seized his telescope.

"I see what you mean," said he; "it is a pylon that has been used for some geodesic survey."

The next moment the sail was filled, and the yawl was bearing down upon the object with inconceivable swiftness, both Captain Servadac and the lieutenant too excited to utter a word. Mile after mile

the distance rapidly grew less, and as they drew nearer the pylon they could see that it was erected on a low mass of rocks that was the sole interruption to the dull level of the field of ice. No wreath of smoke rose above the little island; it was manifestly impossible, they conceived, that any human being could there have survived the cold; the sad presentiment forced itself upon their minds that it was a mere cairn to which they had been hurrying.

Ten minutes later, and they were so near the rock that the lieutenant took in his sail, convinced that the impetus already attained would be sufficient to carry him to the land. Servadac's heart bounded as he caught sight of a fragment of blue canvas fluttering in the wind from the top of the pylon: it was all that now remained of the French national standard. At the foot of the pylon stood a miserable shed, its shutters tightly closed. No other habitation was to be seen; the entire island was less than a quarter of a mile in circumference; and the conclusion was irresistible that it was the sole surviving remnant of Formentera, once a member of the Balearic Archipelago.

To leap on shore, to clamber over the slippery stones, and to reach the cabin was but the work of a few moments. The worm-eaten door was bolted on the inside. Servadac began to knock with all his might. No answer. Neither shouting nor knocking could draw forth a reply.

"Let us force it open, Procope!" he said.

The two men put their shoulders to the door, which soon yielded to their vigorous efforts, and they found themselves inside the shed, and in almost total darkness. By opening a shutter they admitted what daylight they could. At first sight the wretched place seemed to be deserted; the little grate contained the ashes of a fire long since extinguished; all looked black and desolate. Another instant's investigation, however, revealed a bed in the extreme corner, and extended on the bed a human form.

"Dead!" sighed Servadac; "dead of cold and hunger!"

Lieutenant Procope bent down and anxiously contemplated the body.

"No; he is alive!" he said, and drawing a small flask from his pocket he poured a few drops of brandy between the lips of the senseless man.

There was a faint sigh, followed by a feeble voice, which uttered the one word, "Gallia?"

"Yes, yes! Gallia!" echoed Servadac, eagerly.

"My comet, my comet!" said the voice, so low as to be almost inaudible, and the unfortunate man relapsed again into unconsciousness.

"Where have I seen this man?" thought Servadac to himself; "his face is strangely familiar to me."

But it was no time for deliberation. Not a moment was to be lost in getting the unconscious astronomer away from his desolate quarters. He was soon conveyed to the yawl; his books, his scanty wardrobe, his papers, his instruments, and the blackboard which had served for his calculations, were quickly collected; the wind, by a fortuitous providence, had shifted into a favorable quarter; they set their sail with all speed, and ere long were on their journey back from Formentera.

Thirty-six hours later, the brave travelers were greeted by the acclamations of their fellow-colonists, who had been most anxiously awaiting their reappearance, and the still senseless *savant*, who had neither opened his eyes nor spoken a word throughout the journey, was safely deposited in the warmth and security of the great hall of Nina's Hive.

END OF FIRST BOOK

(Concluded in May issue)

¶ Now that you have looked over the first issue of AMAZING STORIES, the editor would very much like to know how you like the new magazine. In the coming issues we shall probably run a department entitled "Readers' Letters", which will be a forum where our readers can discuss the various problems in connection with these stories. Very often you are puzzled over certain scientific matter contained in stories of this kind and wish to get more information. We shall try hard to keep this new department for the benefit of all, and will try to publish all letters received from readers of AMAZING STORIES.

If, on the other hand, you have comments, criticisms, and suggestions, be good enough to let us have all of these. The editor would also like to know whether you like the present makeup of the magazine; that is, one story in two parts, as, for instance, the one we present this month, "Off on a Comet", with the balance in the next issue—or whether you would rather have the complete story in one issue, without the short stories as printed in the present number.

Rest assured that the editor will be guided by the majority at all times. A word from you will be greatly appreciated.

—EDITOR.

The NEW ACCELERATOR

By H. G. Wells

"We went out by his gate into the road, and there we made a minute examination of the statuesque passing traffic. The top of the wheels and some of the legs of the horses of this char-a-banc, the end of the whip-lash and the lower jaw of the conductor—who was just beginning to yawn—were perceptibly in motion, but all the rest of the lumbering conveyance seemed still. And quite noiseless except for a faint rattling that came from one man's throat!"

CERTAINLY, if ever a man found a guinea when he was looking for a pin it is my good friend Professor Gibberne. I have heard before of investigators overshooting the mark, but never quite to the extent that he has done. He has really, this time at any rate, without any touch of exaggeration in the phrase, found something to revolutionize human life. And that when he was simply seeking an all-round nervous stimulant to bring languid people up to the stresses of these pushful days. I have tasted the stuff now several times, and I cannot do better than describe the effect the thing had on me. That there are astonishing experiences in store for all in search of new sensations will become apparent enough.

IT IS enough to say in commendation of this very exciting story that it is worthy of the author. H. G. Wells has achieved a wonderful reputation in the field of serious writing as well as of fiction. Here for the entertainment of the reader we present a scientific story by him, the hero of which story is a physiologist and chemist. And now we deal with the science of the human system and are told the story of a wonderful achievement which must be read in detail to be appreciated. Mr. Wells' matter is not only vivid and even valuable, but there is a picturesqueness about his language which attracts, as it is distinctively the English of the mother country.

Professor Gibberne, as many people know, is my neighbor in Folkestone. Unless my memory plays me a trick, his portrait at various ages has already appeared in various magazines, but I am unable to look it up, because I have lent my volume to someone who has never sent it back. The reader may, perhaps, recall the high forehead and the singularly long black eyebrows that give such a Mephistophelian touch to his face. He occupies one of those pleasant little detached houses in the mixed style that make the western end of the Upper Sandgate Road so interesting. His is the one with the Flemish gables and portico, and it is in the little room with the mullioned bay window that he works when he is down here, and in which of an evening we have so often smoked and talked together. He is a mighty jester, but, besides, he likes to talk to me about his

work; he is one of those men who find a help and stimulus in talking, and so I have been able to follow the conception of the New Accelerator right up from a very early stage. Of course, the greater portion of his experimental work is not done in Folkestone, but in Gower Street, in the fine new laboratory next to the hospital that he has been the first to use.

As everyone knows, or at least as all intelligent people know, the special field in which Gibberne has gained so great and deserved a reputation among physiologists includes the action of drugs upon the nervous system. On the subjects of soporifics, sedatives, and anaesthetics he is, I am told, unequalled. He is also a chemist of considerable eminence, and I suppose in the subtle and complex jungle of riddles that shadows the ganglion cell and the axis fibre there are little cleared places of his making, little glades of illumination, which, until he sees fit to publish his results, are still inaccessible to every other living man. And in the last few years he has been particularly assiduous upon the question of nervous stimulants, and already, before the discovery of the New Accelerator, had attained great success with them. Medical science has to thank him for at least three distinct and absolutely safe invigorators of unrivalled value to practising men. In cases of exhaustion the preparation known as Gibberne's B Syrup has, I suppose, saved more lives already than any lifeboat on the coast.

"But none of these little things begin to satisfy me yet," he told me nearly a year ago. "Either they increase the central energy without affecting the nerves or they simply increase the available energy by lowering the nervous conductivity; and all of them are unequal and local in their operation. One wakes up the heart and viscera and leaves the brain stupefied, one gets at the brain, champagne fashion, and does nothing good for the solar plexus, and what I want, and what, if it's an earthly possibility, I mean to have—is a stimulant that stimulates all round, that wakes you up for a time from the crown of your head to the tip of your great toe, and makes you go two—or even three to everybody else's one. Eh? That's the thing I'm after."

"It would tire a man," I said.

"Not a doubt of it. And you'd eat double or treble—and all that. But just think what the thing would mean. Imagine yourself with a little phial like this"—he held up a little bottle of green glass and marked his points with it—"and that in this precious phial is the power to think twice as fast, move twice as quickly, do twice as much work in a given time as you could otherwise do."

"But is such a thing possible?"

"I believe so. If it isn't, I've wasted my time for a year. These various preparations of the hypophosphites, for example, seem to show that something of the sort. . . . Even if it was only one and a half times as fast it would do."

"It *would* do," I said.

"If you were a statesman in a corner, for example, time rushing up against you, something urgent to be done, eh?"

"He could dose his private secretary," I said.

"And gain—double time. And think if *you*, for example, wanted to finish a book."

"Usually," I said, "I wish I'd never begun 'em."

"Or a doctor, driven to death, wants to sit down and think out a case. Or a barrister—or a man cramming for an examination."

"Worth a guinea a drop," said I, "and more—to men like that."

"And in a duel, again," said Gibberne, "where it all depends on your quickness in pulling the trigger."

"Or in fencing," I echoed.

"You see," said Gibberne, "if I get it as an all-round thing it will really do you no harm at all—except perhaps to an infinitesimal degree it brings you nearer old age. You will just have lived twice to other peoples once—"

"I suppose," I meditated, "in a duel—it would be fair?"

"That's a question for the seconds," said Gibberne.

I harked back further. "And you really think such a thing *is* possible?" I said.

"As possible," said Gibberne, and glanced at something that went throbbing by the window, "as a motorbus. As a matter of fact——"

He paused and smiled at me deeply, and tapped slowly on the edge of his desk with the green phial.

"I think I know the stuff. . . . Already I've got something coming." The nervous smile upon his face betrayed the gravity of his revelation. He rarely talked of his actual experimental work, unless things were very near the end. "And it may be, it may be—I shouldn't be surprised—it may even do the thing at a greater rate than twice."

"It will be rather a big thing," I hazarded.

"It will be, I think, rather a big thing."

But I don't think he quite knew what a big thing it was to be, for all that.

I remember we had several talks about the stuff after that. "The New Accelerator," he called it, and his tone about it grew more confident on each occasion. Sometimes he talked nervously of unexpected physiological results its use might have, and then he would get a little unhappy; at others he was frankly mercenary, and we debated long and anxiously how the preparation might be turned to commercial account. "It's a good thing," said Gibberne, "a tremendous thing. I know I'm giving the world something, and I think it only reasonable we should expect the world to pay. The dignity of science is all very well, but I think somehow I must have the monopoly of the stuff for say, ten years. I don't see why all the fun in life should go to the dealers in ham."

It seemed to me that Gibberne was really preparing no less than the absolute acceleration of life. Suppose a man repeatedly dosed with such a preparation; he would live an active and record life indeed, but he would be an adult at eleven, middle-aged at twenty-five and by thirty well on the road to senile decay. It seemed to me that so far Gibberne was going to do for anyone who took his drug, exactly what Nature has done for the Jews and Orientals, who are men in their teens and aged by fifty, and quicker in thought and act than we are all the time. The marvel of drugs has always been great to my mind; you can madden a man, calm a man, make him incredibly strong and alert or a helpless log, quicken this passion and allay that, all by means of drugs, and here was a new miracle to be added to this strange armory of phials the doctors use! But Gibberne was far too eager upon

his technical points to enter very keenly into my aspect of the question.

It was the 7th or 8th of August when he told me the distillation that would decide his failure or success for a time was going forward as we talked, and it was on the 10th that he told me the thing was done and the New Accelerator a tangible reality in the world. I met him as I was going up the Sandgate Hill toward Folkestone—I think I was going to get my hair cut, and he came hurrying down to meet me—I suppose he was coming to my house to tell me at once of his success. I remember that his eyes were unusually bright and his face flushed, and I noted the swift alacrity of his step.

"It's done," he cried, and gripped my hand, speaking very fast; "it's more than done. Come up to my house and see."

"Really?"

"Really!" he shouted. "Incredibly! Come up and see."

"And it does—twice?"

"It does more, much more. It scares me. Come up and see the stuff. Taste it! Try it! It's the most amazing stuff on earth." He gripped my arm and, walking at such a pace that he forced me into a trot, went shouting with me up the hill. A whole *power-bus* of people turned and stared at us in unison after the manner of people in *power-buses*. It was one of those hot, clear days that Folkestone sees so much of, every color incredibly bright and every outline hard. There was a breeze, of course, but not so much breeze as sufficed under these conditions to keep me cool and dry. I panted for mercy.

"I'm not walking fast, am I?" cried Gibberne, and slackened his pace to a quick march.

"You've been taking some of this stuff," I puffed.

"No," he said. "At the utmost a drop of water that stood in a beaker from which I had washed out the last traces of the stuff. I took some last night you know. But that is ancient history, now."

"And it goes twice?" I said, nearing his doorway in a grateful perspiration.

"It goes a thousand times, many thousand times," cried Gibberne, with a dramatic gesture, flinging open his Early English carved oak gate.

"Phew," said I, and followed him to the door.

"I don't know how many times it goes," he said, with his latch-key in his hand.

"And you ——"

"It throws all sorts of light on nervous physiology, it kicks the theory of vision into a perfectly new shape." . . . "Heaven knows how many thousand times. We'll try all that after. The thing is to try the stuff now."

"Try the stuff?" I said, as we went along the passage.

"Rather," said Gibberne, turning on me in his study. "There it is in that little green phial there. Unless you happen to be afraid."

I am a careful man by nature, and only theoretically adventurous. I *was* afraid. But on the other hand, there is pride.

"Well," I haggled. "You say you've tried it?"

"I've tried it," he said, "and I don't look hurt by it, do I? I don't even look livery and I *feel*——"

I sat down. "Give me the potion," I said. "If the worst comes to the worst it will save having my hair cut, and that I think is one of the most hateful duties of a civilized man. How do you take the mixture?"

"With water," said Gibberne, whacking down a carafe.

He stood up in front of his desk and regarded me in his easy chair; his manner was suddenly affected by a touch of the Harley Street specialist. "It's rum stuff, you know," he said.

I made a gesture with my hand.

"I must warn you in the first place as soon as you've got it down to shut your eyes, and open them very cautiously in a minute or so's time. One still sees. The sense of vision is a question of length of vibration, consequently of frequency of impacts; but there's a kind of shock to the retina, a nasty giddy confusion just at the time, if the eyes are open. Keep 'em shut."

"Shut," I said. "Good!"

"And the next thing is, keep still. Don't begin to whack about. You may fetch something a nasty rap if you do. Remember you will be going several thousand times faster than you ever did before, heart, lungs, muscles, brain—everything—and you will hit hard without knowing it. You won't know it, you know. You'll feel just as you do now. Only everything in the world will seem to be going ever so many thousand times slower than it ever went before. That's what makes it so deuced queer."

"Lor'," I said. "And you mean——"

"You'll see," said he, and took up a little measure. He glanced at the material on his desk. "Glasses," he said, "water. All here. Mustn't take too much for the first attempt."

The little phial glucked out its precious contents. "Don't forget what I told you," he said, turning the contents of the measure in the manner of an Italian waiter measuring whisky. "Sit with the eyes tightly shut and in absolute stillness for two minutes," he said. "Then you will hear me speak."

He added an inch or so of water to the little dose in each glass.

"By-the-by," he said, "don't put your glass down. Keep it in your hand and rest your hand on your knee. Yes—so, and now——"

He raised his glass.

"The New Accelerator," I said.

"The New Accelerator," he answered, and we touched glasses and drank, and instantly I closed my eyes.

You know that blank non-existence into which one drops when one has taken "gas." For an indefinite interval it was like that. Then I heard Gibberne telling me to wake up, and I stirred and opened my eyes. There he stood as he had been standing, glass still in hand. It was empty, that was all the difference.

"Well?" said I.

"Nothing out of the way?"

"Nothing. A slight feeling of exhilaration, perhaps. Nothing more."

"Sounds?"

"Things are still," I said. "By Jove! Yes! They *are* still. Except the sort of faint pat, patter, like rain falling on different things. What is it?"

"Analyzed sounds," I think he said, but I am not sure. He glanced at the window. "Have you ever seen a curtain before a window fixed in that way before?"

I followed his eyes, and there was the end of the

curtain, frozen as it were, corner high, in the act of flapping briskly in the breeze.

"No," said I; "that's odd."

"And here," he said, and opened the hand that held the glass. Naturally I winced, expecting the glass to smash. But so far from smashing it did not even seem to stir; it hung in mid-air—motionless. "Roughly speaking," said Gibberne, "an object in these latitudes falls 16 feet in a second now. Only, you see, it hasn't fallen yet for the hundredth part of a second. That gives you some idea of the pace of my Accelerator." And he waved his hand round and round, over and under the slowly sinking glass. Finally he took it by the bottom, pulled it down, and placed it very carefully on the table. "Eh?" he said to me and laughed.

"That seems all right," I said, and began very gingerly to raise myself from my chair. I felt perfectly well, very light and comfortable, and quite confident in my mind. I was going fast all over. My heart, for example, was beating a thousand times a second, but that caused me no discomfort at all. I looked out of the window. An immovable cyclist, head down and with a frozen puff of dust behind his driving-wheel, scorched to overtake a galloping *char-a-banc* that did not stir. I gaped in amazement at this incredible spectacle. "Gibberne," I cried, "how long will this confounded stuff last?"

"Heaven knows!" he answered. "Last time I took it I went to bed and slept it off. I tell you, I was frightened. It must have lasted some minutes, I think—it seemed like hours. But after a bit it slows down rather suddenly, I believe."

I was proud to observe that I did not feel frightened—I suppose because there were two of us.

"Why shouldn't we go out?" I asked.

"Why not?"

"They'll see us."

"Not they. Goodness no! We shall be going a thousand times faster than the quickest conjuring trick that was ever done. Come along! Which way shall we go? Window, or door?"

And out by the window we went.

Assuredly of all the strange experiences that I have ever had, or imagined, or read of other people having or imagining, that little raid I made with Gibberne on the Folkestone Leas, under the influence of the New Accelerator, was the strangest and maddest of all. We went out by his gate into the road, and there we made a minute examination of the statuesque passing traffic. The tops of the wheels and some of the legs of the horses of this *char-a-banc*, the end of the whip-lash and the lower jaw of the conductor—who was just beginning to yawn—were perceptibly in motion, but all the rest of the lumbering conveyance seemed still. And quite noiseless except for a faint rattling that came from one man's throat! And as parts of this frozen edifice there were a driver, you know, and a conductor, and eleven people! The effect as we walked about the thing began by being madly queer, and ended by being—disagreeable. There they were, people like ourselves and yet not like ourselves, frozen in careless attitudes, caught in mid-gesture. A girl and a man smiled at one another, a leering smile that threatened to last for evermore; a woman in a floppy capelline rested her arm on the rail and stared at Gibberne's house with the unwinking stare of eternity; a man stroked his mustache like a figure of wax, and another stretched a tiresome stiff hand with extended fingers towards his loosened hat. We stared at them, we laughed at them, we made faces at them, and then a sort of disgust of them came upon us, and we turned away and walked around in front of the cyclist towards the Leas.

"Goodness!" cried Gibberne, suddenly; "look there!"

He pointed, and there at the tip of his finger and sliding down the air with wings flapping slowly and at the speed of an exceptionally languid snail—was a bee.

And so we came out upon the Leas. There the thing seemed madder than ever. The band was playing in the upper stand, though all the sound it made for us was a low-pitched, wheezy rattle, a sort of prolonged last sigh that passed at times into a sound like the slow, muffled ticking of some monstrous clock. Frozen people stood erect, strange, silent, self-conscious-looking dummies hung unstably in mid-stride, promenading upon the grass. I passed close to a little poodle dog suspended in the act of leaping, and watched the slow movement of his legs as he sank to earth. "Lord, look *here!*" cried Gibberne, and we halted a moment before a magnificent person in white faint-striped flannels, white shoes, and a Panama hat, who turned back to wink at two gaily dressed ladies he had passed. A wink, studied with such leisurely deliberation as we could afford, is an unattractive thing. It loses any quality of alert gaiety, and one remarks that the winking eye does not completely close, that under its drooping lid appears the lower edge of an eyeball and a little line of white. "Heaven give me memory," said I, "and I will never wink again."

"Or smile," said Gibberne, with his eye on the lady's answering teeth.

"It's infernally hot, somehow," said I. "Let's go slower."

"Oh, come along!" said Gibberne.

We picked our way among the bath-chairs in the path. Many of the people sitting in the chairs seemed almost natural in their passive poses, but the contorted scarlet of the bandsmen was not a restful thing to see. A purple-faced little gentleman was frozen in the midst of a violent struggle to refold his newspaper against the wind; there were many evidences that all these people in their sluggish way were exposed to a considerable breeze, a breeze that had no existence so far as our sensations went. We came out and walked a little way from the crowd, and turned and regarded it. To see all that multitude changed to a picture, smitten rigid, as it were, into the semblance of realistic wax, was impossibly wonderful. It was absurd, of course, but it filled me with an irrational, an exultant sense of superior advantage. Consider the wonder of it! All that I had said and thought, and done since the stuff had begun to work in my veins had happened, so far as those people, so far as the world in general went, in the twinkling of an eye. "The New Accelerator——" I began, but Gibberne interrupted me.

"There's that infernal old woman!" he said.

"What old woman?"

"Lives next door to me," said Gibberne. "Has a lapdog that yaps. Gods! The temptation is strong!"

There is something very boyish and impulsive about Gibberne at times. Before I could expostulate

with him he had dashed forward, snatched the unfortunate animal out of visible existence, and was running violently with it towards the cliff of the Leas. It was most extraordinary. The little brute, you know, didn't bark or wriggle or make the slightest sign of vitality. It kept quite stiffly in an attitude of somnolent repose, and Gibberne held it by the neck. It was like running about with a dog of wood. "Gibberne," I cried, "put it down!" Then I said something else. "If you run like that "Gibberne," I cried "you'll set your clothes on fire. Your linen trousers are going brown as it is!"

He clapped his hand on his thigh and stood hesitating on the verge. "Gibberne," I cried, coming up, "put it down. This heat is too much! It's our running so. Two or three miles a second! Friction of the air!"

"What?" he said, glancing at the dog.

"Friction of the air," I shouted. "Friction of the air. Going too fast. Like meteorites and things. Too hot. And, Gibberne! Gibberne! I'm all over pricking and a sort of perspiration. You can see people stirring slightly. I believe the stuff's working off! Put that dog down."

"Eh?" he said.

"It's working off," I repeated. "We're too hot and the stuff's working off! I'm wet through."

He stared at me. Then at the band, the wheezy rattle of whose performance was certainly going faster. Then with a tremendous sweep of his arm he hurled the dog away from him and it went spinning upward, still inanimate, and hung at last over the grouped parasols of a knot of chattering people. Gibberne was gripping my elbow. "By Jove!" he cried. "I believe it is! A sort of hot pricking and —yes. That man's moving his pocket-handkerchief! Perceptibly. We must get out of this sharp."

But we could not get out of it sharply enough. Luckily, perhaps; For we might have run, and if we had run we should, I believe, have burst into flames. Almost certainly we should have burst into flames! You know we had neither of us thought of that. . . . But before we could even begin to run the action of the drug had ceased. It was the business of a minute fraction of a second. The effect of the New Accelerator passed like the drawing of a curtain, vanished in the movement of a hand. I heard Gibberne's voice in infinite alarm. "Sit down," he said, and flop, down upon the turf at the edge of the Leas I sat—scorching as I sat. There is a patch of burnt grass there still where I sat down. The whole stagnation seemed to wake up as I did so, the disarticulated vibration of the band rushed together into a blast of music, the promenaders put their feet down and walked their ways, the papers and flags began flapping, smiles passed into words, the winker finished his wink and went on his way complacently, and all the seated people moved and spoke.

The whole world had come alive again, was going as fast as we were, or rather we were going no faster than the rest of the world. It was like slowing down as one comes into a railway station. Everything seemed to spin around for a second or two, I had the most transient feeling of nausea, and that was all. And the little dog which had seemed to hang for a moment when the force of Gibberne's arm was expended fell with a swift acceleration clean through a lady's parasol!

That was the saving of us. Unless it was for one corpulent old gentleman in a bath-chair, who certainly did start at the sight of us and afterwards regarded us at intervals with a darkly suspicious eye, and finally, I believe, said something to his nurse about us, I doubt if a solitary person remarked our sudden appearance among them. Plop! We must have appeared abruptly. We ceased to smoulder almost at once, though the turf beneath me was uncomfortably hot. The attention of everyone, including even the Amusements' Association Band, which on this occasion, for the only time in its history, got out of tune, was arrested by the amazing fact, and the still more amazing yapping and uproar caused by the fact that a respectable, overfed lapdog sleeping quietly to the east of the bandstand should suddenly fall through the parasol of a lady on the west—in a slightly singed condition due to the extreme velocity of its movements through the air. In these absurd days, too, when we are all trying to be as psychic, and silly, and superstitious as possible! People got up and trod on other people, chairs were overturned, the Leas policeman ran. How the matter settled itself I do not know—we were much too anxious to disentangle ourselves from the affair and get out of range of the eye of the old gentleman in the bath-chair to make minute inquiries. As soon as we were sufficiently cool and sufficiently recovered from our giddiness and nausea and confusion of mind to do so we stood up and, skirting the crowd, directed our steps back along the road below the Metropole towards Gibberne's house. But amidst the din I heard very distinctly the gentleman who had been sitting beside the lady of the ruptured sunshade using quite unjustifiable threats and language to one of those chair-attendants who have "inspector" written on their caps. "If you didn't throw the dog," he said, "who *did?*"

The sudden return of movement and familiar noises, and our natural anxiety about ourselves (our clothes were still dreadfully hot, and the fronts of the thighs of Gibberne's white trousers were scorched a drabbish brown), prevented the minute observations I should have liked to make on all these things. Indeed, I really made no observations of any scientific value on that return. The bee, of course, had gone. I looked for that cyclist, but he was already out of sight as we came into the Upper Sandgate Road or hidden from us by traffic; the *char-a-banc,* however, with its people now all alive and stirring, was clattering along at a spanking pace almost abreast of the nearer church.

We noted, however, that the window-sill on which we had stepped in getting out of the house was slightly singed, and that the impressions of our feet on the gravel of the path were unusually deep.

So it was I had my first experience of the New Accelerator. Practically we had been running about and saying and doing all sorts of things in the space of a second or so of time. We had lived half an hour while the band had played, perhaps two bars. But the effect it had upon us was that the whole world had stopped for our convenient inspection. Considering all things, and particularly considering our rashness in venturing out of the house, the experience might certainly have been much more disagreeable than it was. It showed, no doubt, that Gibberne has still much to learn before his

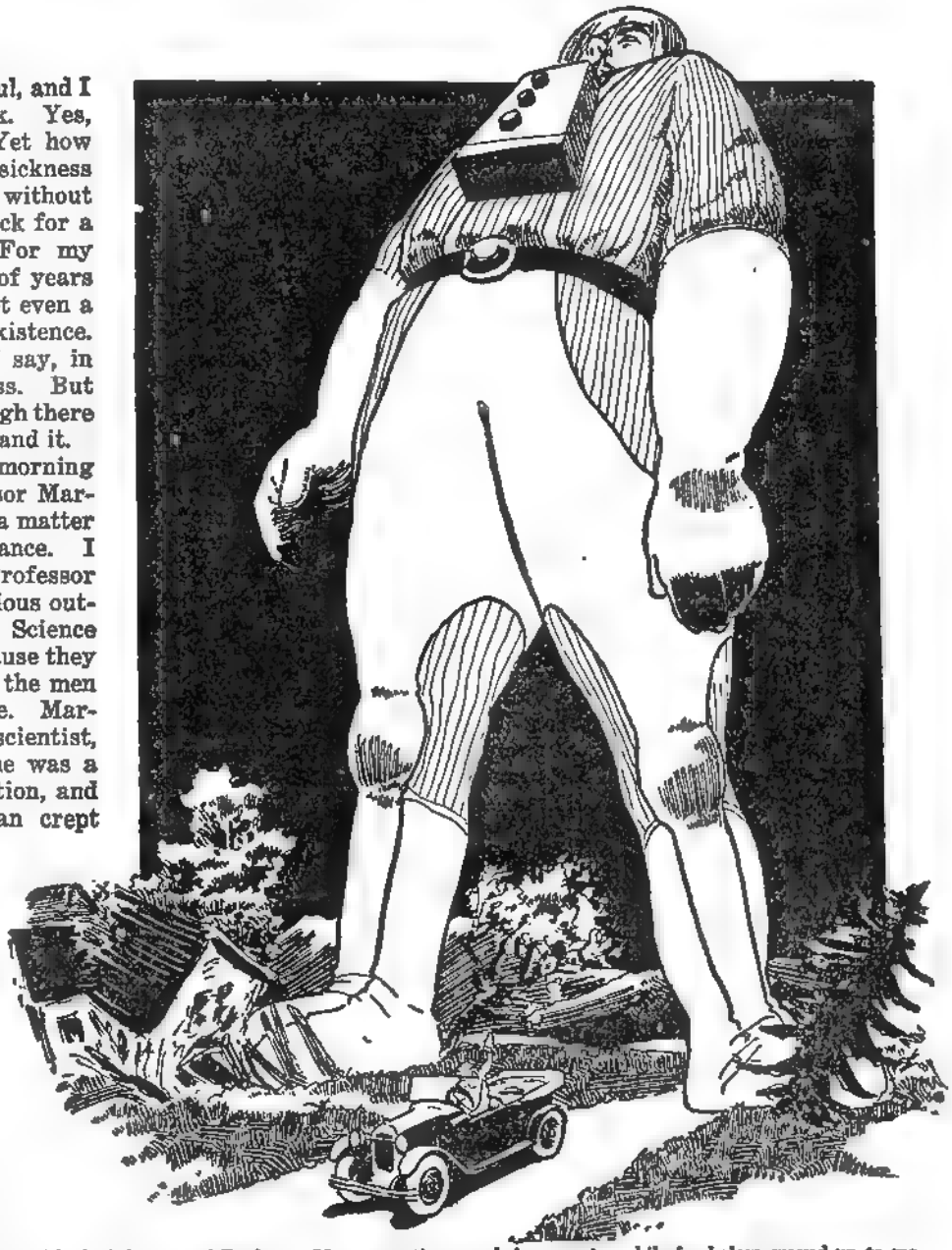
(*Continued on page* 96)

The MAN from the ATOM

By G. Peyton Wertenbaker

I AM a lost soul, and I am homesick. Yes, homesick. Yet how vain is homesickness when one is without a home! I can but be sick for a home that has gone. For my home departed millions of years ago, and there is now not even a trace of its former existence. Millions of years ago, I say, in all truth and earnestness. But I must tell the tale—though there is no man left to understand it.

I well remember that morning when my friend, Professor Martyn, called me to him on a matter of the greatest importance. I may explain that the Professor was one of those mysterious outcasts, geniuses whom Science would not recognize because they scorned the pettiness of the men who represented Science. Martyn was first of all a scientist, but almost as equally he was a man of intense imagination, and where the ordinary man crept along from detail to detail and required a complete model before being able to visualize the results of his work, Professor Martyn first grasped the great results of his contemplated work, the vast, far-reaching effects, and then built with the end in view.



I looked down, and Professor Martyn, a tiny speck in an automobile far below, waved up to me cheerfully as he started his car and began to speed away. He was fleeing the immediate danger of my growth, when my feet would begin to cover an immense area, until I could be almost entirely in space.

The Professor had few friends. Ordinary men avoided him because they were unable to understand the greatness of his vision. Where he plainly saw pictures of worlds and universes, they vainly groped among pictures of his words on printed pages. That was their impression of a word. A group of letters. His was of the picture it presented in his mind. I, however, though I had not the slightest claim to scientific knowledge, was romantic to a high degree, and always willing to carry out his strange experiments for the sake of the adventure and the strangeness of it all. And so the advantages were equal. I had a mysterious personage ready to furnish me with the unusual. He had a willing subject to try out his inventions, for he reasoned quite naturally that should he himself perform the experiments, the world would be in danger of losing a mentality it might eventually have need of.

And so it was that I hurried to him without the slightest hesitation upon that, to me, momentous day of days in my life. I little realized the great change that soon would come over my existence, yet I knew that I was in for an adventure, certainly

startling, possibly fatal. I had no delusions concerning my luck.

I found Professor Martyn in his laboratory bending, with the eyes of a miser counting his gold, over a tiny machine that might easily have fitted in my pocket. He did not see me for a moment, but when he finally looked up with a sigh of regret that he must tear his eyes away from his new and wonderful brain-child, whatever it might be, he waved me a little unsteadily into a chair, and sank down in one himself, with the machine in his lap. I waited, placing myself in what I considered a receptive mood.

"Kirby," he began abruptly at last, "have you ever read your Alice in Wonderland?" I gasped, perhaps, in my surprise.

"Alice in—! are you joking, Professor?"

"Certainly not," he assured me. "I speak in all seriousness."

"Why, yes, I have read it many times. In fact, it has always struck me as a book to appeal more to an adult than to a child. But what—I can't see just how that is important." He smiled.

"Perhaps I am playing with you unduly," he said, "but do you remember the episode of the two pieces of cheese, if my own recollection is correct, one of which made one grow, the other shrink?"

I assented. "But," I said incredulously, "certainly you cannot tell me you have spent your time in preparing magical cheeses?" He laughed aloud this time, and then, seeing my discomfort, unburdened himself of his latest triumph.

"No Kirby, not just that, but I have indeed constructed a machine that you will be incapable of believing until you try it. With this little object in my lap, you could grow forever, until there was nothing left in the universe to surpass. Or you could shrink so as to observe the minutest of atoms, standing upon it as you now stand upon the earth. It is an invention that will make scientific knowledge perfect!" He halted with flushed face and gleaming eyes. I could find nothing to say, for the thing was collossal, magnificent in its possibilities. If it worked. But I could not resist a suspicion of so tiny a machine.

"Professor, are you in absolute earnest?" I cried.

"Have I ever jested about so wonderful a thing?" he retorted quietly. I knew he had not.

"But surely that is merely a model?"

"It is the machine itself!"

IN "Alice in the Looking Glass" the beautiful play of fancy which gave immortal fame to a logician and mathematician we read of the mysterious change in size of the heroine, the charming little Alice. It tells how she grew large and small according to what she ate. But here we have increase in size and pushed to its utmost limit. Here we have treated the growth of a man to cosmic dimensions. And we are told of his strange sensation and are led up to a sudden startling and impressive conclusion, and are taken through the picture of his emotions and despair.

II

I was too astounded to speak at first. But finally, "Tell me about it," I gasped. "This is certainly the most fantastic invention you have made yet! How does it work?"

"I am afraid," suggested Professor Martyn, "that you could not understand all the technical details. It is horribly complicated. And besides, I am anxious to try it out. But I will give you an idea of it.

"Of course, you know that an object may be divided in half forever, as you have learned in high school, without being entirely exhausted. It is this principle that is used in shrinking. I hardly understand the thing's mechanism myself—it was the result of an accident—but I know that the machine not only divides every atom, every molecule, every electron of the body into two exactly equal parts, but it accomplishes the same feat in itself, thus keeping pace with its manipulator. The matter it removes from the body is reduced to a gaseous form, and left in the air. There are six wires that you do not see, which connect with the body, while the machine itself is placed on the chest, held by a small belt that carries wires to the front of the body where the two controlling buttons are placed.

"When the user wishes to grow, he presses the upper button, and the machine then extracts atoms from the air which it converts, by a reverse method from the first, into atoms identical to certain others in the body, the two atoms thus formed joining into one large particle of twice the original size.

"As I said, I have little idea of my invention except that it works by means of atomic energy. I was intending to make an atomic energy motor, when I observed certain parts to increase and diminish strangely in size. It was practically by blind instinct that I have worked the thing up. And now I fear I shall not be able to discover the source of my atomic energy until I can put together, with great care, another such machine, for I am afraid to risk taking this apart for analysis."

"And I," I said suddenly, with the awe I felt for such a discovery quite perceptible, I fear, in my tone, "I am to try out this machine?"

"If you are willing," he said simply. "You must realize, of course, that there are a multitude of unknown dangers. I know nothing of the complete effects of the machine. But my experiments on inanimate objects have seemed satisfactory."

"I am willing to take any risks," I said enthusiastically, "If you are willing to risk your great machine. Why, don't you realize, Professor, that this will revolutionize Science? There is nothing, hardly, that will be unknown. Astronomy will be complete, for there will be nothing to do but to increase in size enough to observe beyond our atmosphere, or one could stand upon worlds like rocks to examine others."

"Exactly. I have calculated that the effect of a huge foot covering whole countries would be slight, so equally distributed would the weights be. Probably it would rest upon tall buildings and trees with ease. But in space, of course, no support should be necessary.

"And then, as you said, one could shrink until the mysteries of electrons would be revealed. Of course, there would be danger in descending into apparent nothingness, not knowing where a new world-atom could be found upon which to stand. But dangers must be risked."

"But now, Kirby," remarked the Professor officially, "time passes, and I should like you to make

your little journey soon that I may quickly know its results. Have you any affairs you would like to put in order, in case—"

"None," I said. I was always ready for these experiments. And though this promised to be magnificently momentous, I was all ready. "No, if I return in a few hours, I shall find everything all right. If not, I am still prepared." He beamed in approval.

"Fine. Of course you understand that our experiment must take place at some secluded spot. If you are ready, we can proceed at once to a country laboratory of mine that will, I think, be safe."

I assented, and we hastily donned our overcoats, the Professor spending a moment or two collecting some necessary apparatus. Then we packed the machine in a safe box, and left his home.

"Are you all ready, Kirby?" The Professor's voice was firm, but my practiced ear could detect the slightest vibrations that indicated to me his intense inner feelings. I hesitated a moment. I was not afraid of going. Never that. But there seemed something partaking almost of finality about this departure. It was different from anything I had ever felt before.

"All ready, Professor," I said cheerfully after a brief moment.

"Are you going to magnify or minimize yourself?"

"It shall be growth," I answered, without a moment's hesitation there. The stars, and what lay beyond. . . . It was that I cared for. The Professor looked at me earnestly, deeply engrossed in thought. Finally he said, "Kirby, if you are to make an excursion into interstellar space, you realize that not only would you freeze to death, but also die from lack of air."

Walking to a cabinet in the rear of the room, he opened it and withdrew from it some strange looking paraphernalia. "This," he said, holding up a queer looking suit, "is made of a great quantity of interlocking metal cells, hermetically sealed, from which the air has been completely exhausted so as to give the cells a high vacuum. These separate cells are then woven into the fabric. When you wear this suit, you will, in fact, be enclosed in a sort of thermos bottle. No heat can leave this suit, and the most intensive cold cannot penetrate through it."

I quickly got into the suit, which was not as heavy as one might imagine. It covered not only the entire body, but the feet and hands as well, the hand part being a sort of mitten.

After I had gotten into the suit, the Professor placed over my head a sort of transparent dome which he explained was made of strong unbreakable bakelite. The globe itself really was made of several globes, one within the other. The globes only touched at the lower rim. The interstices where the globes did not touch formed a vacuum, the air having been drawn from the spaces. Consequently heat could not escape from the transparent head piece nor could the cold come in. From the back of this head gear, a flexible tube led into the interior; this tube being connected to a small compressed oxygen tank, which the Professor strapped to my back.

He then placed the wonder machine with its row of buttons on my chest, and connected the six wires to the arms and other parts of my body.

Professor Martyn grasped my hand then, and said in his firm, quiet voice:

"Then goodbye, Kirby, for awhile. Press the first button when you are ready to go. May the Fates be with you!"

The Professor next placed the transparent head gear over my head and secured it with attachments to my vacuum suit. A strange feeling of quietness and solitude came over me. While I could still see the Professor, I could hear him talk no longer as sounds cannot pierce a vacuum. Once more the Professor shook my hand warmly.

Then, somehow, I found myself pressing down the uppermost of three buttons. Instantly there was a tingling, electric flash all through my body. Martyn, trees, distant buildings, all seemed to shoot away into nothingness. Almost in panic, I pushed the middle button. I stopped. I could not help it, for this disappearing of all my world acted upon my consciousness. I had a strange feeling that I was leaving forever.

I looked down, and Professor Martyn, a tiny speck in an automobile far below, waved up to me cheerfully as he started his car and began to speed away. He was fleeing the immediate danger of my growth, when my feet would begin to cover an immense area, until I could be almost entirely in space. I gathered my courage quickly, fiercely, and pressed the top button again. Once more the earth began to get smaller, little by little, but faster. A tingling sensation was all over me, exhilarating if almost painful where the wires were connected upon my forearms, my legs, about the forehead, and upon my chest.

It did never seem as though I was changing, but rather that the world was shrinking away, faster and faster. The clouds were falling upon me with threatening swiftness, until my head broke suddenly through them, and my body was obscured, and the earth below, save tiny glimpses, as though of a distant landscape through a fog. Far away I could see a few tall crags that broke through even as had I, scorning from their majestic height the world below. Now indeed, if never before, was my head "among the clouds!"

But even the clouds were going. I began to get an idea of the earth as a great ball of thick cloud. There was a pricking sensation beneath my feet, as though I stood upon pine needles. It gave me a feeling of power to know that these were trees and hills.

I began to feel insecure, as though my support were doing something stealthy beneath me. Have you ever seen an elephant perform upon a little rolling ball? Well that is how I felt. The earth was rotating, while I no longer could move upon it. While I pondered, watching in some alarm as it became more and more like a little ball a few feet thick, it took matters in its own hand. My feet slipped off, suddenly, and I was lying absolutely motionless, powerless to move, in space!

I watched the earth awhile as it shrank, and even observed it now as it moved about the sun. I could see other planets that had grown at first a trifle larger and were now getting smaller again, about the same size as the earth, tiny balls of no

more than a couple of inches in diameter. . . .

It was getting much darker. The sun no longer gave much light, for there was no atmosphere to diffuse it. It was a great blinding ball of fire near my feet now, and the planets were traveling about it swiftly. I could see the light reflected on one side, dark on the other, on each planet. The sun could be seen to move perceptibly too, though very slightly. As my feet grew larger, threatening to touch it, I hastily drew them up with ease and hung suspended in the sky in a half-sitting position as I grew.

Turning my head away all at once, I observed in some surprise that some of the stars were growing larger, coming nearer and nearer. For a time I watched their swift approach, but they gradually seemed to be getting smaller rather than larger. I looked again at my own system. To my amazement, it had moved what seemed about a yard from its former position, and was much smaller. The planets I saw no longer, but there were faint streaks of light in circles about the sun, and I understood that these were the tracks of the worlds that now moved about their parent too swiftly to be followed with the eye.

I could see all the stars moving hither and yon now, although they still continued to appear closer and closer together. I found a number lying practically on the plane of my chest, but above that they seemed to cease. I could now see no planets, only the tiny sun moving farther and farther, faster and faster along its path. I could discern, it seemed to me, a trend in its and its companions' path. For on one side they seemed to be going one way, and the opposite way on the other. In front, they seemed to move across my vision. Gradually I came to understand that this was a great circle swinging vastly about me, faster and faster.

I had grown until the stars were circling now about my legs. I seemed to be the center of a huge vortex. And they were coming closer and closer together, as though to hem me about. Yet I could not move all of me away. I could only move my limbs and head in relation to my stationary body. The nearest star, a tiny bright speck, was a few yards away. My own sun was like a bright period upon a blackboard. But the stars were coming nearer and nearer. It seemed necessary for me to move somehow, so I drew my legs up and shot them out with all my force. I began to move slowly away, having acted upon what little material substance there was in the ether.

The stars were soon only a few feet apart below me, then a few inches, and suddenly, looking out beyond them, I was struck with the fact that they seemed to be a great group, isolated from a number of far distant blotches that were apart from these. The stars were moving with incredible swiftness now about a center near which was what I imagined to be the sun, though I had lost track of it somehow. They merged closer and closer together, the vast group shrunk more and more, until finally they had become indistinguishable as entities. They were all part of a huge cloud now, that seemed somehow familiar. What did it suggest? It was pale, diffused at the ends, but thick and white in the center, like a nebul—a nebula! That was it! A great light broke over me. All these stars were part of a great system that formed a nebula. It explained the mystery of the nebulae.

And there were now other nebulae approaching, as this grew smaller. They took on the resemblance of stars, and they began to repeat the process of closing in as the stars had done. The stars, universes within universes! And those universes but nebulae in another great universe! Suddenly I began to wonder. Could there be nothing more in infinity than universe after universe, each a part of another greater one? So it would seem. Yet the spell was upon me and I was not ready to admit such simplicity yet. I must go on. And my earth! It could not even be found, this sphere that had itself seemed almost the universe.

But my growth was terribly fast now. The other nebulae were merging, it would seem at first, upon me. But my slow progress through space became faster as I grew larger, and even as they came upon me, like flying arrows now, I shot above them. Then they, too, merged. The result was a vast nucleus of glowing material.

A great light began to grow all about me. Above I suddenly observed, far away, a huge brightness that seemed to extend all over the universe. But it began definitely. It was as though one were in a great ball, and the nebulae, a sunlike body now, were in the center. But as I became larger with every instant, the roof-like thing diffused, even as before things had converged, and formed into separate bodies, like stars. I passed through them finally, and they came together again behind me as I shot away, another great body.

A coincidence suddenly struck me. Was not this system of a great ball effect with a nucleus within similar to what the atom was said to be? Could the nucleus and its great shell be opposite poles of electrical energy, then? In other words, was this an electron — a huge electron composed of universes? The idea was terrible in its magnitude, something too huge for comprehension.

And so I grew on. Many more of these electrons, if such they were, gathered together, but my luck held and I passed beyond this new body thus formed —a molecule? I wondered. Suddenly I tired of the endless procession of stars coming together, forming ever into new stars that came together too. I was getting homesick. I wanted to see human faces about me again, to be rid of this fantastic nightmare. It was unreal. It was impossible. It must stop.

A sudden impulse of fear took hold upon me. This should not go on forever. I had to see my earth again. All at once, I reached down, and pressed the central button to stop.

But just as a swiftly moving vehicle may not stop at once, so could not I. The terrific momentum of my growth carried me on, and the machine moved still, though slower. The stars seemed shooting upon me, closing about me. I could see no end of them before me. I must stop or they would be about me.

Closer in they came, but smaller and smaller. They became a thousand pinpoints shooting about me. They merged into a thick, tenuous cloud about me, thicker and thicker. I was shooting up now, but my growth had stopped. The cloud became a cold, clammy thing that yielded to the touch, and—

and it was water! Yes, pure water! And I was floating in it. . . .

Years. . . . .

Suddenly I shot up, out of the water, and fell back. Strength returned to me, and warmth, and love of life. It was water, something I knew, something familiar, a friend. And so I swam, swam on and on, until my feet touched bottom, and I was leaping forth out of the water, on to the sand. . . .

IV

There is no need to drag the tale out. I awoke finally from an exhausted sleep, and found myself in a world that was strange, yet familiar. It might have been a lonely part of the earth, except for an atmosphere of strangeness that told me subconsciously it was another world. There was a sun, but it was far distant, no larger than my moon. And vast clouds of steam hung over the jungles beyond the sand, obscuring them in a shimmering fog, obscuring the sun so that it danced and glimmered hazily through the curtain. And a perpetual twilight thus reigned.

I tried to tell myself I was in some strange manner home. But I knew I was not. At last, breaking beneath the weight of homesickness and regret, I surrendered to a fit of weeping that shamed my manhood even as I wept. Then a mood of terrible, unreasoning anger against Fate enveloped me, and I stormed here and there about the beach.

And so, all through the night, I alternately wept and raged, and when the dawn came I sank again in peaceful slumber. . . .

When I awoke, I was calm. Obviously, in stopping I told myself I had been left in a cloud of atoms that proved to be part of another group of matter, another earth or atom, as you will. The particular atoms I was in were part of the ocean.

The only thing to do was to return. I was ashamed of my madness now, for I had the means of return. In the third button . . . the bottom button. I saw no reason for delay. I splashed back into the water, and swam hastily out to the point where it seemed I had risen. I pushed the lowest button. Slowly I felt myself grow smaller and smaller, the sense of suffocation returned, only to pass away as the pinpoints shot about me again, but away this time. The whole nightmare was repeated now, reversed, for everything seemed to be opening up before me. I thrilled with joy as I thought of my return to my home, and the Professor again. All the world was friend to me now, in my thoughts, a friend I could not bear to lose.

And then all my hopes were dashed. How, I thought, could I strike my own earth again? For even if I had come to the right spot in the water to a certainty, how could I be sure I would pass between just the right cloud of molecules? And what would lead me to the very electron I had left? And, after the nucleus, why should I not enter the wrong nebula? And even if I should hit the right nebula, how should I find my own star, my own earth? It was hopeless, impossible! . . . And yet, so constituted is human nature that I could hope nevertheless!

My God! Impossible as it is, I did it! I am certain that it was my own nebula I entered, and I was in the center, where the sun should be. It sounds fantastic, it *is* fantastic. The luck of a lifetime, an infinity, for me. Or so it should have been. But I looked where the sun ought to be found, in the central cluster. I halted early and watched long with a sinking heart. But the sun—was gone!

I lay motionless in the depths of space and I watched idly the stars that roamed here and there. Black despair was in my heart, but it was a despair so terrible that I could not comprehend its awfulness. It was beyond human emotion. And I was dazed, perhaps even a little mad.

The stars were tiny pinpoints of light, and they shot back and forth and all around like purposeless nothings. And ever would they collide, and a greater pinpoint would be born, or a thousand pieces of fragments would result. Or the two might start off on new tracks, only to collide again. Seconds it took them to cover what I knew to be billions of trillions of light-years.

And gradually the truth dawned upon me, the awful truth. These stars were suns, even as mine had been, and they grew and died and were reborn, it seemed now, in a second, all in a second. Yet fair races bloomed and died, and worlds lived and died, races of intelligent beings strove, only to die. All in a second. But it was not a second to them. My immense size was to blame on my part.

For time is relative, and depends upon size. The smaller a creature, the shorter its life. And yet, to itself, the fly that lives but a day has passed a lifetime of years. So it was here. Because I had grown large, centuries had become but moments to me. And the faster, the larger I grew, the swifter the years, the millions of years had rolled away. I remembered how I had seen the streaks that meant the planets going about the sun. So fast had they revolved that I could not see the circuit that meant but a second to me. And yet each incredibly swift revolution had been a year! A year on earth, a second to me! And so, on an immensely greater scale, had it been as I grew. The few minutes that meant to me the sun's movement through the ether of what seemed a yard had been centuries to the earth. Before I had lived ten minutes of my strange existence, Professor Martyn had vainly hoped away a lifetime, and died in bitter despair. Men had come and died, races had flourished and fallen. Perhaps all mankind had died away from a world stripped of air and water. In ten minutes of my life. . .

And so I sit here now, pining hopelessly for my Mother Earth. This strange planet of a strange star is all beyond my ken. The men are strange and their customs curious. Their language is beyond my every effort to comprehend, yet mine they know like a book. I find myself a savage, a creature to be treated with pity and contempt in a world too advanced even for his comprehension. Nothing here means anything to me.

I live here on sufferance, as an ignorant African might have lived in an incomprehensible, to him, London. A strange creature, to play with and to be played with by children. A clown . . . a savage . . . ! And yearn as I will for my earth, I know I may never know it again, for it was gone, forgotten, non-existent a trillion centuries ago. . . .!

THE END OF PART ONE

The THING from "OUTSIDE"

By George Allen England

". . . Out of the door crept something like a man. A queer, broken, bent-over thing: a thing crippled, shrunken and flabby, that whined. This thing—yes, it was still Marr—crunched down at one side, quivering, whimpering. It moved its hands as a crushed ant moves its antennae; jerkily, without significance. . . ."

HERE is an extraordinary story by the well-known magazine writer, George Allan England. This story should be read quite carefully, and it is necessary to use one's imagination in reading it.

The theme of Mr. England's story is unusual and extraordinary. If we can take insects and put them upon the dissecting table in order to study their anatomy, is there a good reason why some super-Intelligence cannot do the same thing with us humans?

It may be taken as a certainty that Intelligence, as we understand it, is not only of our earth. It is also not necessary to presume that Intelligence may have its setting only in a body of flesh and blood.

There is no reason for disbelieving that a Super-Intelligence might not reside in gases or invisible structures, something which we of today cannot even imagine.

THEY sat about their camp-fire, that little party of Americans retreating southward from Hudson Bay before the on-coming menace of the great cold. Sat there, stolid under the awe of the North, under the uneasiness that the day's trek had laid upon their souls. The three men smoked. The two women huddled close to each other. Fireglow picked their faces from the gloom of night among the dwarf firs. A splashing murmur told of the Albany River's haste to escape from the wilderness, and reach the Bay.

"I don't see what there was in a mere circular print on a rock-ledge to make our guides desert," said Professor Thorburn. His voice was as dry as his whole personality. "Most extraordinary."

"*They* knew what it was, all right," answered Jandron, geologist of the party. "So do I." He rubbed his cropped mustache. His eyes glinted grayly. I've seen prints like that before. That was on the Labrador. And I've seen things happen, where they were."

"Something surely happened to our guides, before they'd got a mile into the bush," put in the Professor's wife; while Vivian, her sister, gazed into the fire that revealed her as a beauty, not to be spoiled even by a tam and a rough-knit sweater. "Men don't shoot wildly, and scream like that, unless—"

"They're all three dead now, anyhow," put in Jandron. "So *they're* out of harm's way. While we—well, we're two hundred and fifty wicked miles from the C. P. R. rails."

"Forget it, Jandy!" said Marr, the journalist. "We're just suffering from an attack of nerves, that's all. Give me a fill of 'baccy. Thanks. We'll all be better in the morning. Ho-hum! Now, speaking of spooks and such—"

He launched into an account of how he had once exposed a fraudulent spiritualist, thus proving—to his own satisfaction—that nothing existed beyond the scope of mankind's everyday life. But nobody gave him much heed. And silence

fell upon the little night-encampment in the wilds; a silence that was ominous.

Pale, cold stars watched down from spaces infinitely far beyond man's trivial world.

Next day, stopping for chow on a ledge miles upstream, Jandron discovered another of the prints. He cautiously summoned the other two men. They examined the print, while the women-folk were busy by the fire. A harmless thing the marking seemed; only a ring about four inches in diameter, a kind of cup-shaped depression with a raised center. A sort of glaze coated it, as if the granite had been fused by heat.

Jandron knelt, a well-knit figure in bright mackinaw and canvas leggings, and with a shaking finger explored the smooth curve of the print in the rock. His brows contracted as he studied it.

"We'd better get along out of this as quick as we can," said he in an unnatural voice. "You've got your wife to protect, Thorburn, and I,—well, I've got Vivian. And—"

"*You* have?" nipped Marr. The light of an evil jealously gleamed in his heavy-lidded look. "What you need is an alienist."

"Really, Jandron," the Professor admonished, "you mustn't let your imagination run away with you."

"I suppose it's imagination that keeps this print cold!" the geologist retorted. His breath made faint, swirling coils of vapor above it.

"Nothing but a pot-hole," judged Thorburn, bending his spare, angular body to examine the print. The Professor's vitality all seemed centered in his big-bulged skull that sheltered a marvellous thinking machine. Now he put his lean hand to the base of his brain, rubbing the back of his head as if it ached. Then, under what seemed some powerful compulsion, he ran his bony finger around the print in the rock.

"By Jove, but it *is* cold!" he admitted. "And looks as if it had been stamped right out of the stone. Extraordinary!"

"Dissolved out, you mean," corrected the geologist. "By cold."

The journalist laughed mockingly.

"Wait till I write this up!" he sneered. " 'Noted Geologist Declares Frigid Ghost Dissolves Granite!' "

Jandron ignored him. He fetched a little water from the river and poured it into the print.

"Ice!" ejaculated the Professor. "Solid ice!"

"Frozen in a second," added Jandron, while Marr frankly stared. "And it'll never melt, either. I tell you, I've seen some of these rings before; and every time, horrible things have happened. Incredible things! Something burned this ring out of the stone—burned it out with the cold interstellar space. Something that can import cold as a permanent quality of matter. Something that can kill matter, and totally remove it."

"Of course that's all sheer poppycock," the journalist tried to laugh, but his brain felt numb.

"This something, this Thing," continued Jandron, "is a Thing that can't be killed by bullets. It's what caught our guides on the barrens, as they ran away—poor fools!"

A shadow fell across the print in the rock. Mrs. Thorburn had come up, was standing there. She had overheard a little of what Jandron had been saying.

"Nonsense!" she tried to exclaim, but she was shivering so she could hardly speak.

That night, after a long afternoon of paddling and portaging—laboring against inhibitions like those in a nightmare—they camped on shelving rocks that slanted to the river.

"After all," said the Professor, when supper was done, "we mustn't get into a panic. I know extraordinary things are reported from the wilderness, and more than one man has come out, raving. But we, by Jove! with our superior brains—we aren't going to let Nature play us any tricks!"

"And of course," added his wife, her arm about Vivian, "everything in the universe *is* a natural force. There's really no super-natural, at all."

"Admitted," Jandron replied. "But how about things *outside* the universe?"

"And they call you a scientist?" gibed Marr; but the Professor leaned forward, his brows knit.

"Hm!" he grunted. A little silence fell.

"You don't mean, really," asked Vivian, "that you think there's life and intelligence—Outside?"

Jandron looked at the girl. Her beauty, haloed with ruddy gold from the firelight, was a pain to him as he answered:

"Yes, I do. And dangerous life, too. I know what I've seen, in the North Country. I know what I've seen!"

Silence again, save for the crepitation of the flames, the fall of an ember, the murmur of the current. Darkness narrowed the wilderness to just that circle of flickering light ringed by the forest and the river, brooded over by the pale stars.

"Of course you can't expect a scientific man to take you seriously," commented the Professor.

"I know what I've seen! I tell you there's Something entirely outside man's knowledge."

"Poor fellow!" scoffed the journalist; but even as he spoke his hand pressed his forehead.

"There are Things at work," Jandron affirmed, with dogged persistence. He lighted his pipe with a blazing twig. Its flame revealed his face drawn, lined. "Things. Things that reckon with us no more than we do with ants. Less, perhaps."

The flame of the twig died. Night stood closer, watching.

"Suppose there are?" the girl asked. "What's that got to do with these prints in the rock?"

"*They,*" answered Jandran, "are marks left by one of those Things. Footprints, maybe. That Thing is near us, here and now!"

Marr's laugh broke a long stillness.

"And you," he exclaimed, "with an A. M. and a B. S. to write after your name."

"If you knew more," retorted Jandron, "you'd know a devilish sight less. It's only ignorance that's cock-sure."

"But," dogmatized the Professor, "no scientist of any standing has ever admitted any outside interference with this planet."

"No, and for thousands of years nobody ever admitted that the world was round, either. What I've seen, I know."

"Well, what *have* you seen?" asked Mrs. Thorburn, shivering.

"You'll excuse me, please, for not going into that just now."

"You mean," the Professor demanded, dryly, "if the—hm!—this suppositious Thing wants to—?"

"It'll do any infernal thing it takes a fancy to, yes! If it happens to want us—"

"But what *could* Things like that want of us? Why should They come here, at all?"

"Oh, for various reasons. For inanimate objects, at times, and then again for living beings. They've come here lots of times, I tell you," Jandron asserted with strange irritation, "and got what They wanted, and then gone away to—Somewhere. If one of Them happens to want us, for any reason, It will take us, that's all. If It doesn't want us, It will ignore us, as we'd ignore gorillas in Africa if we were looking for gold. But if it was gorilla-fur we wanted, that would be different for the gorillas, wouldn't it?"

"What in the world," asked Vivian, "could a—well, a Thing from Outside want of *us?*"

"What do men want, say, of guinea-pigs? Men experiment with 'em, of course. Superior beings use inferior, for their own ends. To assume that man is the supreme product of evolution is gross self-conceit. Might not some superior Thing want to experiment with human beings?

"But how?" demanded Marr.

"The human brain is the most highly-organized form of matter known to this planet. Suppose, now—"

"Nonsense!" interrupted the Professor. "All hands to the sleeping-bags, and no more of this. I've got a wretched headache. Let's anchor in Blanket Bay!"

He, and both the women, turned in. Jandron and Marr sat a while longer by the fire. They kept plenty of wood piled on it, too, for an unnatural chill transfixed the night-air. The fire burned strangely blue, with greenish flicks of flame.

At length, after vast acerbities of disagreement, the geologist and the newspaperman sought their sleeping-bags. The fire was a comfort. Not that a fire could avail a pin's weight against a Thing from interstellar space, but subjectively it was a comfort. The instincts of a million years, centering around protection by fire, cannot be obliterated.

After a time—worn out by a day of nerve-strain and of battling with swift currents, of flight from Something invisible, intangible—they all slept.

The depths of space, star-sprinkled, hung above them with vastness immeasurable, cold beyond all understanding of the human mind.

Jandron woke first, in a red dawn.

He blinked at the fire, as he crawled from his sleeping-bag. The fire was dead; and yet it had not burned out. Much wood remained unconsumed, charred over, as if some gigantic extinguisher had in the night been lowered over it.

"*Hmmm!*" growled Jandron. He glanced about him, on the ledge. "Prints, too. I might have known!"

He aroused Marr. Despite all the journalist's mocking hostility, Jandron felt more in common with this man of his own age than with the Professor, who was close on sixty.

"Look here, now!" said he. "*It* has been all around here. See? *It* put out our fire—maybe the fire annoyed *It*, some way—and *It* walked round us, everywhere." His gray eyes smouldered. "I guess, by gad, you've got to admit facts, now!"

The journalist could only shiver and stare.

"Lord, what a head I've got on me, this morning!" he chattered. He rubbed his forehead with a shaking hand, and started for the river. Most of his assurance had vanished. He looked badly done up.

"Well, what say?" demanded Jandron. "See these fresh prints?"

"Damn the prints!" retorted Marr, and fell to grumbling some unintelligible thing. He washed unsteadily, and remained crouching at the river's lip, inert, numbed.

Jandron, despite a gnawing at the base of his brain, carefully examined the ledge. He found prints scattered everywhere, and some even on the river-bottom near the shore. Wherever water had collected in the prints on the rock, it had frozen hard. Each print in the river-bed, too, was white with ice. Ice that the rushing current could not melt.

"Well, by gad!" he exclaimed. He lighted his pipe and tried to think. Horribly afraid—yes, he felt horribly afraid, but determined. Presently, as a little power of concentration came back, he noticed that all the prints were in straight lines, each mark about two feet from the next.

"*It* was observing us while we slept," said Jandron.

"What nonsense are you talking, eh?" demanded Marr. His dark, heavy face sagged. "Fire, now, and grub!"

He got up and shuffled unsteadily away from the river. Then he stopped with a jerk, staring.

"Look! Look a' that axe!" he gulped, pointing.

Jandron picked up the axe, by the handle, taking good care not to touch the steel. The blade was white-furred with frost. And deep into it, punching out part of the edge, one of the prints was stamped.

"This metal," said he, "is clean gone. It's been absorbed. The Thing doesn't recognize any difference in materials. Water and steel and rock are all the same to It.

"You're crazy!" snarled the journalist. "How could a Thing travel on one leg, hopping along, making marks like that?"

"It could roll, if it was disk-shaped. And—"

A cry from the Professor turned them. Thorburn was stumbling toward them, hands out and tremulous.

"My wife—!" he choked.

Vivian was kneeling beside her sister, frightened, dazed.

"Something's happened!" stammered the Professor. "Here— come here—!"

Mrs. Thorburn was beyond any power of theirs, to help. She was still breathing; but her respirations were stertorous, and a complete paralysis had stricken her. Her eyes, half-open and expressionless, showed pupils startlingly dilated. No resources of the party's drug-kit produced the slightest effect on the woman.

The next half-hour was a confused panic, breaking camp, getting Mrs. Thorburn into a canoe, and leaving that accursed place, with a furious energy of terror that could no longer reason. Up-stream, ever up against the swirl of the current the party fought, driven by horror. With no thought of food or drink, paying no heed to landmarks, lashed forward only by the mad desire to be gone, the three

men and the girl flung every ounce of their energy into the paddles. Their panting breath mingled with the sound of swirling eddies. A mist-blurred sun brooded over the northern wilds. Unheeded, hosts of black-flies sang high-pitched keenings all about the fugitives. On either hand the forest waited, watched.

Only after two hours of sweating toil had brought exhaustion did they stop, in the shelter of a cove where black waters circled, foam-flecked. There they found the Professor's wife—she was dead.

Nothing remained to do but bury her. At first Thorburn would not hear of it. Like a madman he insisted that through all hazards he would fetch the body out. But no—impossible. So, after a terrible time, he yielded.

In spite of her grief, Vivian was admirable. She understood what must be done. It was her voice that said the prayers; her hand that—lacking flowers—laid the fir boughs on the cairn. The Professor was dazed past doing anything, saying anything.

Toward mid-afternoon, the party landed again, many miles up-river. Necessity forced them to eat. Fire would not burn. Every time they lighted it, it smouldered and went out with a heavy, greasy smoke. The fugitives ate cold food and drank water, then shoved off in two canoes and once more fled.

In the third canoe, hauled to the edge of the forest, lay all the rock-specimens, data and curios, scientific instruments. The party kept only Marr's diary, a compass, supplies, fire-arms and medicine-kit.

"We can find the things we've left—sometime," said Jandron, noting the place well. "Sometime—after *It* has gone."

"And bring the body out," added Thorburn. Tears, for the first time, wet his eyes. Vivian said nothing. Marr tried to light his pipe. He seemed to forget that nothing, not even tobacco, would burn now.

Vivian and Jandron occupied one canoe. The other carried the Professor and Marr. Thus the power of the two canoes was about the same. They kept well together, up-stream.

The fugitives paddled and portaged with a dumb, desperate energy. Toward evening they struck into what they believed to be the Mamattawan. A mile up this, as the blurred sun faded beyond a wilderness of ominous silence, they camped. Here they made determined efforts to kindle fire. Not even alcohol from the drug-kit would start it. Cold, they mumbled a little food; cold, they huddled into their sleeping-bags, there to lie with darkness leaden on their fear. After a long time, up over a world void of all sound save the river-flow, slid an amber moon notched by the ragged tops of the conifers. Even the wail of a timber-wolf would have come as welcome relief; but no wolf howled.

Silence and night enfolded them. And everywhere they felt that *It* was watching.

Foolishly enough, as a man will do foolish things in a crisis, Jandron laid his revolver outside his sleeping-bag, in easy reach. His thought—blurred by a strange, drawing headache—was:

"If *It* touches Vivian, I'll shoot!"

He realized the complete absurdity of trying to shoot a visitant from interstellar space; from the Fourth Dimension, maybe. But Jandron's ideas seemed tangled. Nothing would come right. He lay there, absorbed in a kind of waking nightmare. Now and then, rising on an elbow, he hearkened; all in vain. Nothing so much as stirred.

His thought drifted to better days, when all had been health, sanity, optimism; when nothing except jealousy of Marr, as concerned Vivian, had troubled him. Days when the sizzle of the frying-pan over friendly coals had made friendly wilderness music; when the wind and the northern star, the whirr of the reel, the whispering vortex of the paddle in clear water had all been things of joy. Yes, and when a certain happy moment had, through some word or look of the girl, seemed to promise his heart's desire. But now—

"Damn it, I'll save *her*, anyhow!" he swore with savage intensity, knowing all the while that what was to be, would be, unmitigably. Do ants, by any waving of antennæ, stay the down-crushing foot of man?

Next morning, and the next, no sign of the Thing appeared. Hope revived that possibly It might have flitted away elsewhere; back, perhaps, to outer space. Many were the miles the urging paddles spurned behind. The fugitives calculated that a week more would bring them to the railroad. Fire burned again. Hot food and drink helped, wonderfully. But where were the fish?

"Most extraordinary," all at once said the Professor, at noonday camp. He had become quite rational again. "Do you realize, Jandron, we've seen no traces of life in some time?"

The geologist nodded. Only too clearly he had noted just that, but he had been keeping still about it.

"That's so, too!" chimed in Marr, enjoying the smoke that some incomprehensible turn of events was letting him have. "Not a muskrat or beaver. Not even a squirrel or bird."

"Not so much as a gnat or black-fly!" the Professor added. Jandron suddenly realized that he would have welcomed even those.

That afternoon, Marr fell into a suddenly vile temper. He mumbled curses against the guides, the current, the portages, everything. The Professor seemed more cheerful. Vivian complained of an oppressive headache. Jandron gave her the last of the aspirin tablets; and as he gave them, took her hand in his.

"I'll see *you* through, anyhow," said he. "I don't count, now. Nobody counts, only you!"

She gave him a long, silent look. He saw the sudden glint of tears in her eyes; felt the pressure of her hand, and knew they two had never been so near each other as in that moment under the shadow of the Unknown.

Next day—or it may have been two days later, for none of them could be quite sure about the passage of time—they came to a deserted lumber-camp. Even more than two days might have passed; because now their bacon was all gone, and only coffee, tobacco, beef-cubes and pilot-bread remained. The lack of fish and game had cut alarmingly into the duffle-bag. That day—whatever day it may have been—all four of them suffered terribly from headache of an odd, ring-shaped kind, as if something circular were being pressed down about their heads. The Professor said it was the sun that

made his head ache. Vivian laid it to the wind and the gleam of the swift water, while Marr claimed it was the heat. Jandron wondered at all this, inasmuch as he plainly saw that the river had almost stopped flowing, and the day had become still and overcast.

They dragged their canoes upon a rotting stage of fir-poles and explored the lumber-camp; a mournful place set back in an old "slash," now partly overgrown with scrub poplar, maple and birch. The log buildings, covered with tar-paper partly torn from the pole roofs, were of the usual North Country type. Obviously the place had not been used for years. Even the landing-stage where once logs had been rolled into the stream had sagged to decay.

"I don't quite get the idea of this," Marr exclaimed. "Where did the logs go to? Downstream, of course. But *that* would take 'em to Hudson Bay, and there's no market for spruce timber or pulpwood at Hudson Bay." He pointed down the current.

"You're entirely mistaken," put in the Professor. "Any fool could see this river runs the other way. A log thrown in here would go down toward the St. Lawrence!"

"But then," asked the girl, "why can't we drift back to civilization?" The Professor retorted:

"Just what we *have* been doing, all along! Extraordinary, that I have to explain the obvious!" He walked away in a huff.

"I don't know but he's right, at that," half admitted the journalist. "I've been thinking almost the same thing, myself, the past day or two—that is, ever since the sun shifted."

"What do you mean, shifted?" from Jandron.

"You haven't noticed it?"

"But there's been no sun at all, for at least two days!"

"Hanged if I'll waste time arguing with a lunatic!" Marr growled. He vouchsafed no explanation of what he meant by the sun's having "shifted," but wandered off, grumbling.

"What *are* we going to do?" the girl appealed to Jandron. The sight of her solemn, frightened eyes, of her palm-outward hands and (at last) her very feminine fear, constricted Jandron's heart.

"We're going through, you and I," he answered simply. "We've got to save them from themselves, you and I have."

Their hands met again, and for a moment held. Despite the dead calm, a fir-tip at the edge of the clearing suddenly flicked aside, shrivelled as if frozen. But neither of them saw it.

The fugitives, badly spent, established themselves in the "bar-room" or sleeping-shack of the camp. They wanted to feel a roof over them again, if only a broken one. The traces of men comforted them: a couple of broken peavies, a pair of snowshoes with the thongs all gnawed off, a cracked bit of mirror, a yellowed almanac dated 1899.

Jandron called the Professor's attention to this almanac, but the Professor thrust it aside.

"What do *I* want of a Canadian census-report?" he demanded, and fell to counting the bunks, over and over again. His big bulge of his forehead, that housed the massive brain of him, was oozing sweat. Marr cursed what he claimed was sunshine through the holes in the roof, though Jandron could see none; claimed the sunshine made his head ache.

"But it's not a bad place," he added. "We can make a blaze in that fireplace and be comfy. I don't like that window, though."

"What window?" asked Jandron. "Where?"

Marr laughed, and ignored him. Jandron turned to Vivian, who had sunk down on the "deacon-seat" and was staring at the stove.

"*Is* there a window here?" he demanded.

"Don't ask me," she whispered. "I—I don't know."

With a very thriving fear in his heart, Jandron peered at her a moment. He fell to muttering:

"I'm Wallace Jandron. Wallace Jandron, 37 Ware Street, Cambridge, Massachusetts. I'm quite sane. And I'm going to stay so. I'm going to save her! I know perfectly well what I'm doing. And I'm sane. Quite, quite sane!"

After a time of confused and purposeless wrangling, they got a fire going and made coffee. This, and cube bouillon with hardtack, helped considerably. The camp helped, too. A house, even a poor and broken one, is a wonderful barrier against a Thing from—Outside.

Presently darkness folded down. The men smoked, thankful that tobacco still held out. Vivian lay in a bunk that Jandron had piled with spruce boughs for her, and seemed to sleep. The Professor fretted like a child, over the blisters his paddle had made upon his hands. Marr laughed, now and then; though what he might be laughing at was not apparent. Suddenly he broke out:

"After all, what should *It* want of us?"

"Our brains, of course," the Professor answered, sharply.

"That lets Jandron out," the journalist mocked.

"But," added the Professor, "I can't imagine a Thing callously destroying human beings. And yet—"

He stopped short, with surging memories of his dead wife.

"What was it," Jandron asked, "that destroyed all those people in Valladolid, Spain, that time so many of 'em died in a few minutes after having been touched by an invisible Something that left a slight red mark on each? The newspapers were full of it."

"Piffle!" yawned Marr.

"I tell you," insisted Jandron, "there are forms of life as superior to us as we are to ants. We can't see 'em. No ant ever saw a man. And did any ant ever form the least conception of a man? These Things have left thousands of traces, all over the world. If I had my reference-books—"

"Tell that to the marines!"

"Charles Fort, the greatest authority in the world on unexplained phenomena," persisted Jandron, "gives innumerable cases of happenings that science can't explain, in his 'Book of the Damned.' He claims this earth was once a No-Man's land where all kinds of Things explored and colonized and fought for possession. And he says that now everybody's warned off, except the Owners. I happen to remember a few sentences of his: 'In the past, inhabitants of a host of worlds have dropped here, hopped here, wafted here, sailed, flown, motored, walked here; have come singly, have come in enormous numbers; have visited for hunting, trading, mining. They have been unable to stay here, have made colonies here, have been lost here."

"Poor fish, to believe that!" mocked the journalist, while the Professor blinked and rubbed his bulging forehead.

"I *do* believe it!" insisted Jandron. "The world is covered with relics of dead civilizations, that have mysteriously vanished, leaving nothing but their temples and monuments."

"Rubbish!"

"How about Easter Island? How about all the gigantic works there and in a thousand other places —Peru, Yucatan and so on—which certainly no primitive race ever built?"

"That's thousands of years ago," said Marr, "and I'm sleepy. For heaven's sake, can it!"

"Oh, all right. But *how* explain things, then!"

"What the devil could one of those Things want of our brains?" suddenly put in the Professor. "After all, what?"

"Well, what do we want of lower forms of life? Sometimes food. Again, some product or other. Or just information. Maybe *It* is just experimenting with us, the way we poke an ant-hill. There's always this to remember, that the human brain-tissue is the most highly-organized form of matter in this world."

"Yes," admitted the Professor, "but what—?"

"*It* might want brain-tissue for food, for experimental purposes, for lubricant—how do *I* know?"

Jandron fancied he was still explaining things; but all at once he found himself waking up in one of the bunks. He felt terribly cold, stiff, sore. A sift of snow lay here and there on the camp floor, where it had fallen through holes in the roof.

"Vivian!" he croaked hoarsely. "Thorburn! Marr!"

Nobody answered. There was nobody to answer. Jandron crawled with immense pain out of his bunk, and blinked round with bleary eyes. All of a sudden he saw the Professor, and gulped.

The Professor was lying stiff and straight in another bunk, on his back. His waxen face made a mask of horror. The open, staring eyes, with pupils immensely dilated, sent Jandron shuddering back. A livid ring marked the forehead, that now sagged inward as if empty.

"Vivian!" croaked Jandron, staggering away from the body. He fumbled to the bunk where the girl had lain. The bunk was quite deserted.

On the stove, in which lay half-charred wood—wood smothered out as if by some noxious gas—still stood the coffee-pot. The liquid in it was frozen solid. Of Vivian and the journalist, no trace remained.

Along one of the sagging beams that supported the roof, Jandron's horror-blasted gaze perceived a straight line of frosted prints, ring-shaped, bitten deep.

"Vivian! Vivian!"

No answer.

Shaking, sick, gray, half-blind with a horror not of this world, Jandron peered slowly around. The duffle-bag and supplies were gone. Nothing was left but that coffee-pot and the revolver at Jandron's hip.

Jandron turned, then. A-stare, his skull feeling empty as a burst drum, he crept lamely to the door and out—out into the snow.

Snow. It came slanting down. From a gray sky it steadily filtered. The trees showed no leaf. Birches, poplars, rock-maples all stood naked. Only the conifers drooped sickly-green. In a little shallow across the river snow lay white on thin ice.

Ice? Snow? Rapt with terror, Jandron stared. Why, then, he must have been unconscious three or four weeks? But how—?

Suddenly, all along the upper branches of trees that edged the clearing, puffs of snow flicked down. The geologist shuffled after two half-obliterated sets of footprints that wavered toward the landing.

His body was leaden. He wheezed, as he reached the river. The light, dim as it was, hurt his eyes. He blinked in a confusion that could just perceive one canoe was gone. He pressed a hand to his head, where an iron band seemed screwed up tight, tighter.

"Vivian! Marr! Halloooo!"

Not even an echo. Silence clamped the world; silence, and a cold that gnawed. Everything had gone a sinister gray.

After a certain time—though time now possessed neither reality nor duration—Jandron dragged himself back to the camp and stumbled in. Heedless of the staring corpse he crumpled down by the stove and tried to think, but his brain had been emptied of power. Everything blent to a gray blur. Snow kept slithering in through the roof.

"Well, why don't you come and get me, Thing?" suddenly snarled Jandron. "Here I am. Damn you, come and get me!"

Voices. Suddenly he heard voices. Yes, somebody was outside, there. Singularly aggrieved, he got up and limped to the door. He squinted out into the gray; saw two figures down by the landing. With numb indifference he recognized the girl and Marr.

"Why should they bother me again?" he nebulously wondered. Can't they go away and leave me alone?" He felt peevish irritation.

Then, a modicum of reason returning, he sensed that they were arguing. Vivian, beside a canoe freshly dragged from thin ice, was pointing; Marr was gesticulating. All at once Marr snarled, turned from her, plodded with bent back toward the camp.

"But listen!" she called, her rough-knit sweater all powdered with snow. *"That's* the way!" She gestured downstream.

"I'm not going either way!" Marr retorted. "I'm going to stay right here!" He came on, bareheaded. Snow grayed his stubble of beard; but on his head it melted as it fell, as if some fever there had raised the brain-stuff to improbable temperatures. "I'm going to stay right here, all summer." His heavy lids sagged. Puffy and evil, his lips showed a glint of teeth. "Let me alone!"

Vivian lagged after him, kicking up the ash-like snow. With indifference, Jandron watched them. Trivial human creatures!

Suddenly Marr saw him in the doorway and stopped short. He drew his gun; he aimed at Jandron.

"*You* get out!" he mouthed. "Why in ——— can't you stay dead?"

"Put that gun down, you idiot!" Jandron managed to retort. The girl stopped and seemed trying to understand. "We can get away yet, if we all stick together."

"Are you going to get out and leave me alone?"

demanded the journalist, holding his gun steadily enough.

Jandron, wholly indifferent, watched the muzzle. Vague curiosity possessed him. Just what, he wondered, did it feel like to be shot?

Marr pulled trigger.

Snap!

The cartridge missed fire. Not even powder would burn.

Marr laughed, horribly, and shambled forward.

"Serves him right!" he mouthed. "He'd better not come back again!"

Jandron understood that Marr had seen him fall. But still he felt himself standing there, alive. He shuffled away from the door. No matter whether he was alive or dead, there was always Vivian to be saved.

The journalist came to the door, paused, looked down, grunted and passed into the camp. He shut the door. Jandron heard the rotten wooden bar of the latch drop. From within echoed a laugh, monstrous in its brutality.

Then quivering, the geologist felt a touch on his arm.

"Why did you desert us like that?" he heard Vivian's reproach. "Why?"

He turned, hardly able to see her at all.

"Listen," he said, thickly. "I'll admit anything. It's all right. But just forget it, for now. We've got to get out o' here. The Professor is dead, in there, and Marr's gone mad and barricaded himself in there. So there's no use staying. There's a chance for us yet. Come along!"

He took her by the arm and tried to draw her toward the river, but she held back. The hate in her face sickened him. He shook in the grip of a mighty chill.

"Go, with—you?" she demanded.

"Yes, by God!" he retorted, in a swift blaze of anger, "or I'll kill you where you stand. *It* shan't get you, anyhow!"

Swiftly piercing, a greater cold smote to his inner marrows. A long row of the cup-shaped prints had just appeared in the snow beside the camp. And from these marks wafted a faint, bluish vapor of unthinkable cold.

"What are you staring at?" the girl demanded.

"Those prints! In the snow, there—see?" He pointed a shaking finger.

"How can there be snow at this season?"

He could have wept for the pity of her, the love of her. On her red tam, her tangle of rebel hair, her sweater, the snow came steadily drifting; yet there she stood before him and prated of summer. Jandron heaved himself out of a very slough of down-dragging lassitudes. He whipped himself into action.

"Summer, winter—no matter!" he flung at her. "You're coming along with me!" He seized her arm with the brutality of desperation that must hurt, to save. And murder, too, lay in his soul. He knew that he would strangle her with his naked hands, if need were, before he would ever leave her there, for *It* to work Its horrible will upon.

"You come with me," he mouthed, "or by the Almighty—!"

Marr's scream in the camp, whirled him toward the door. That scream rose higher, higher, even more and more piercing, just like the screams of the runaway Indian guides in what now appeared the infinitely long ago. It seemed to last hours; and always it rose, rose, as if being wrung out of a human body by some kind of agony not conceivable in this world. Higher, higher—

Then it stopped.

Jandron hurled himself against the plank door. The bar smashed; the door shivered inward.

With a cry, Jandron recoiled. He covered his eyes with a hand that quivered, claw-like.

"Go away, Vivian! Don't come here—don't look—"

He stumbled away, babbling.

Out of the door crept something like a man. A queer, broken, bent over thing; a thing crippled, shrunken and flabby, that whined.

This thing—yes, it was still Marr—crouched down at one side, quivering, whimpering. It moved its hands as a crushed ant moves its antennæ, jerkily, without significance.

All at once Jandron no longer felt afraid. He walked quite steadily to Marr, who was breathing in little gasps. From the camp issued an odor unlike anything terrestrial. A thin, grayish grease covered the sill.

Jandron caught hold of the crumpling journalist's arm. Marr's eyes leered, filmed, unseeing. He gave the impression of a creature whose back has been broken, whose whole essence and energy have been wrenched asunder, yet in which life somehow clings, palpitant. A creature vivisected.

Away through the snow Jandron dragged him. Marr made no resistance; just let himself be led, whining a little, palsied, rickety, shattered. The girl, her face whitely cold as the snow that fell on it, came after.

Thus they reached the landing at the river.

"Come, now, let's get away!" Jandron made shift to articulate. Marr said nothing. But when Jandron tried to bundle him into a canoe, something in the journalist revived with swift, mad hatefulness. That something lashed him into a spasm of wiry, incredibly venomous resistance. Slavers of blood and foam streaked Marr's lips. He made horrid noises, like an animal. He howled dismally, and bit, clawed, writhed and grovelled! he tried to sink his teeth into Jandron's leg. He fought appallingly, as men must have fought in the inconceivably remote days even before the Stone Age. And Vivian helped him. Her fury was a tiger-cat's.

Between the pair of them, they almost did him in. They almost dragged Jandron down—and themselves, too—into the black river that ran swiftly sucking under the ice. Not till Jandron had quite flung off all vague notions and restraints of gallantry; not until he struck from the shoulder—to kill, if need were—did he best them.

He beat the pair of them unconscious, trussed them hand and foot with the painters of the canoes, rolled them into the larger canoe, and shoved off.

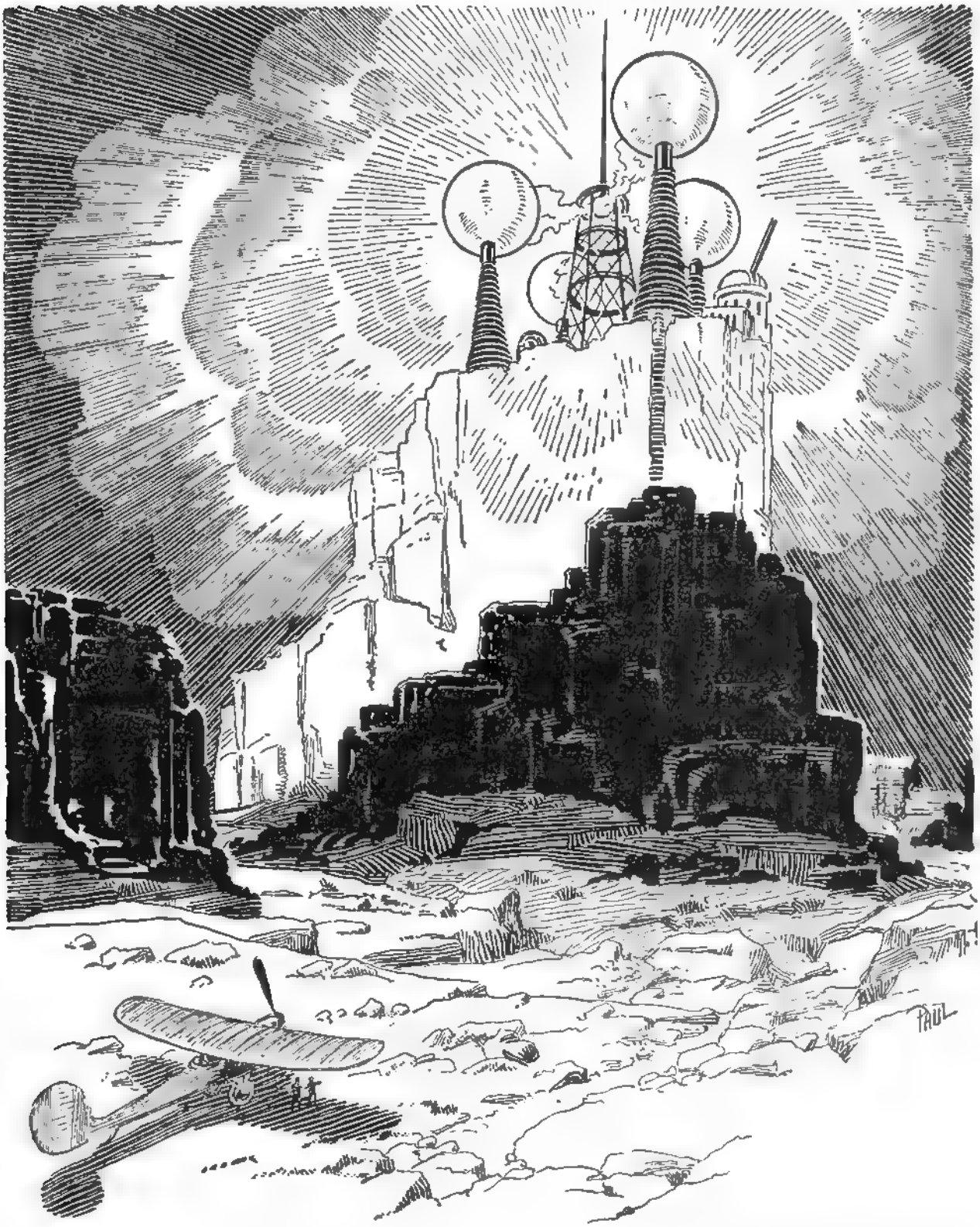
After that, the blankness of a measureless oblivion descended.

Only from what he was told, weeks after, in the Royal Victoria Hospital at Montreal, did Jandron ever learn how and when a field-squad of Dominion Foresters had found them drifting in Lake Moosawamkeag. And that knowledge filtered slowly into his brain during a period inchoate as Iceland fogs.

(*Continued on page* 91)

The MAN WHO SAVED the EARTH

By Austin Hall



Not a sound; the whole works a complicated mass covering a hundred acres, driving with a silence that was magic. Not a whir nor friction. Like a living composite body pulsing and breathing the strange and mysterious force that had been evolved from Huyck's theory of kinetics. The four great steel conduits running from the globes down the side of the mountain. In the center, at a point midway between the globes, a massive steel needle hung on a pivot and pointed directly at the sun.

CHAPTER I.

THE BEGINNING.

GIVEN the beginning. From the start the whole thing has the precision of machine work. Fate and its working—and the wonderful Providence which watches over Man and his future. The whole thing unerring: the incident, the work, the calamity, and the martyr. In the retrospect of disaster we may all of us grow strong in wisdom. Let us go into history.

A hot July day. A sun of scant pity, and a staggering street; panting thousands dragging along, hatless; fans and parasols; the sultry vengeance of a real day of summer. A day of bursting tires; hot pavements, and wrecked endeavor, heartaches for the seashore, for leafy bowers beside rippling water, a day of broken hopes and listless ambition.

Perhaps Fate chose the day because of its heat and because of its natural benefit on fecundity. We have no way of knowing. But we do know this: the date, the time, the meeting; the boy with the burning glass and the old doctor. So commonplace, so trivial and hidden in obscurity! Who would have guessed it? Yet it is—after the creation—one of the most important dates in the world's history.

This is saying a whole lot. Let us go into it and see what it amounts to. Let us trace the thing out in history, weigh it up and balance it with sequence.

Of Charley Huyck we know nothing up to this day. It is a thing which, for some reason, he has always kept hidden. Recent investigation as to his previous life and antecedents have availed us nothing. Perhaps he could have told us; but as he has gone down as the world's great martyr, there is no hope of gaining from his lips what we would so like to know.

After all, it does not matter. We have the day—the incident, and its purport, and its climax of sequence to the day of the great disaster. Also we have the blasted mountains and the lake of blue water which will ever live with his memory. His greatness is not of warfare, nor personal ambition; but of all mankind. The wreaths that we bestow upon him have no doubtful color. The man who saved the earth!

WE read of the days when the powers of radium were yet unknown. It is told us that burns were produced by incautiously carrying a tube of radium salts in the pocket. And here in this story we are told of a different power, opalescence, due to another element. It can destroy mountains, excavate cavities of immeasurable depths and kill human beings and animals in multitude. The story opens with a poor little boy experimenting with a burning glass. Then he becomes the hero of the story—he studies and eventually finds himself able to destroy the earth. He exceeds Archimedes in his power. And he suddenly finds that he has unlocked a power that threatens this very destruction. And the story depicts his horror at the Frankenstein which he had unloosed, and tells of his wild efforts to save humanity, and of the loss of the cosmic discoveries of the little newsboy grown up to be a great scientist.

From such a beginning, Charley Huyck, lean and frail of body, with, even then, the wistfulness of the idealist, and the eyes of a poet. Charley Huyck, the boy, crossing the hot pavement with his pack of papers; the much treasured piece of glass in his pocket, and the sun which only he should master burning down upon him. A moment out of the ages; the turning of a straw destined to out-balance all the previous accumulation of man's history.

The sun was hot and burning, and the child—he could not have been more than ten—cast a glance over his shoulder. It was in the way of calculation. In the heyday of childhood he was not dragged down by the heat and weather: he had the enthusiasm of his half-score of years and the joy of the plaything. We will not presume to call it the spirit of the scientist, though it was, perhaps, the spark of latent investigation that was destined to lead so far.

A moment picked out of destiny! A boy and a plaything. Uncounted millions of boys have played with glass and the sun rays. Who cannot remember the little, round-burning dot in the palm of the hand and the subsequent exclamation? Charley Huyck had found a new toy, it was a simple thing and as old as glass. Fate will ever be so in her working.

And the doctor? Why should he have been waiting? If it was not destiny, it was at least an accumulation of moment. In the heavy eye-glasses, the square, close-cut beard; and his uncompromising fact-seeking expression. Those who knew Dr. Robold are strong in the affirmation that he was the antithesis of all emotion. He was the sternest product of science: unbending, hardened by experiment, and caustic in his condemnation of the frailness of human nature.

It had been his one function to topple over the castles of the foolish; with his hard-seeing wisdom he had spotted sophistry where we thought it not. Even into the castles of science he had gone like a juggernaut. It is hard to have one's theories derided—yea, even for a scientist—and to be called a fool! Dr. Robold knew no middle language; he was not relished by science.

His memory, as we have it, is that of an eccentric. A man of slight compassion, abrupt of manner and with no tact in speaking. Genius is often so; it is a strange fact that many of the greatest of men have been denied by their fellows. A great man and laughter. He was not accepted.

None of us know today what it cost Dr. Robold. He was not the man to tell us. Perhaps Charley Huyck might; but his lips are sealed forever. We only know that he retired to the mountain, and of the subsequent flood of benefits that rained upon mankind. And we still denied him. The great cynic on the mountain. Of the secrets of the place we know little. He was not the man to accept the investigator; he despised the curious. He had been laughed at—let be—he would work alone on the great moment of the future.

In the light of the past we may well bend knee to the doctor and his protégé, Charley Huyck. Two men and destiny! What would we be without them? One shudders to think.

A little thing, and yet one of the greatest moments in the world's history. It must have been Fate. Why was it that this stern man, who hated all emotion, should so have unbended at this mo-

ment? That we cannot answer. But we can conjecture. Mayhap it is this: We were all wrong; we accepted the man's exterior and profession as the fact of his marrow.

No man can lose all emotion. The doctor, was, after all, even as ourselves—he was human. Whatever may be said, we have the certainty of that moment—and of Charley Huyck.

The sun's rays were hot; they were burning; the pavements were intolerable; the baked air in the canyoned street was dancing like that of an oven; a day of dog-days. The boy crossing the street; his arms full of papers, and the glass bulging in his little hip-pocket.

At the curb he stopped. With such a sun it was impossible to long forget his plaything. He drew it carefully out of his pocket, lay down a paper and began distancing his glass for the focus. He did not notice the man beside him. Why should he? The round dot, the brownish smoke, the red spark and the flash of flame! He stamped upon it. A moment out of boyhood; an experimental miracle as old as the age of glass, and just as delightful. The boy had spoiled the name of a great Governor of a great State; but the paper was still salable. He had had his moment. Mark that moment.

A hand touched his shoulder. The lad leaped up.

"Yessir. *Star* or *Bulletin*?"

"I'll take one of each," said the man. "There now. I was just watching you. Do you know what you were doing?"

"Yessir. Burning paper. Startin' fire. That's the way the Indians did it."

The man smiled at the perversion of fact. There is not such a distance between sticks and glass in the age of childhood.

"I know," he said—"the Indians. But do you know how it was done; the why—why the paper began to blaze?"

"Yessir."

"All right, explain."

The boy looked up at him. He was a city boy and used to the streets. Here was some old high-brow challenging his wisdom. Of course he knew.

"It's the sun."

"There," laughed the man. "Of course. You said you knew, but you don't. Why doesn't the sun, without the glass, burn the paper? Tell me that."

The boy was still looking up at him; he saw that the man was not like the others on the street. It may be that the strange intimacy kindled into being at that moment. Certainly it was a strange unbending for the doctor.

"It would if it was hot enough or you could get enough of it together."

"Ah! Then that is what the glass is for, is it?"

"Yessir."

"Concentration?"

"Con— I don't know, sir. But it's the sun. She's sure some hot. I know a lot about the sun, sir. I've studied it with the glass. The glass picks up all the rays and puts them in one hole and that's what burns the paper.

"It's lots of fun. I'd like to have a bigger one; but it's all I've got. Why, do you know, if I had a glass big enough and a place to stand, I'd burn up the earth?"

The old man laughed. "Why, Archimides! I thought you were dead."

"My name ain't Archimedes. It's Charley Huyck."

Again the old man laughed.

"Oh, is it? Well, that's a good name, too. And if you keep on you'll make it famous as the name of the other." Wherein he was foretelling history. "Where do you live?"

The boy was still looking. Ordinarily he would not have told, but he motioned back with his thumb.

"I don't live; I room over on Brennan Street."

"Oh, I see. You room. Where's your mother?"

"Search me; I never saw her."

"I see; and your father?"

"How do I know. He went floating when I was four years old."

"Floating?"

"Yessir—to sea."

"So your mother's gone and your father's floating. Archimedes is adrift. You go to school?"

"Yessir."

"What reader?"

"No reader. Sixth grade.

"I see. What school?"

"School Twenty-six. Say, it's hot. I can't stand here all day. I've got to sell my papers."

The man pulled out a purse.

"I'll take the lot," he said. Then kindly: "My boy, I would like to have you go with me."

It was a strange moment. A little thing with the fates looking on. When destiny plays she picks strange moments. This was one. Charley Huyck went with Dr. Robold.

CHAPTER II.

THE POISON PALL.

We all of us remember that fatal day when the news startled all of Oakland. No one can forget it. At first it read like a newspaper hoax, in spite of the oft-proclaimed veracity of the press, and we were inclined to laughter. 'Twixt wonder at the story and its impossibilities we were not a little enthused at the nerve of the man who put it over.

It was in the days of dry reading. The world had grown populous and of well-fed content. Our soap-box artists had come to the point at last where they preached, not disaster, but a full-bellied thanks for the millennium that was here. A period of Utopian quietness—no villain around the corner; no man to covet the ox of his neighbor.

Quiet reading, you'll admit. Those were the days of the millennium. Nothing ever happened. Here's hoping they never come again. And then:

Honestly, we were not to blame for bestowing blessing out of our hearts upon that newspaperman. Even if it were a hoax, it was at least something.

At high noon. The clock in the city hall had just struck the hour that held the post 'twixt a.m. and p.m., a hot day with a sky that was clear and azure; a quiet day of serene peace and contentment. A strange and a portent moment. Looking back and over the miracle we may conjecture that it was the clearness of the atmosphere and the brightness of the sun that helped to the impact of the disaster. Knowing what we know now we can appreciate the impulse of natural phenomena. It was *not* a miracle.

The spot: Fourteenth and Broadway, Oakland, California.

Fortunately the thousands of employees in the stores about had not yet come out for their luncheons. The lapse that it takes to put a hat on, or to pat a ribbon, saved a thousand lives. One shudders to think of what would have happened had the spot been crowded. Even so, it was too impossible and too terrible to be true. Such things could not happen.

At high noon: Two street-cars crossing Fourteenth on Broadway—two cars with the same joggle and bump and the same aspect of any of a hundred thousand at a traffic corner. The wonder is—there were so few people. A Telegraph car outgoing, and a Broadway car coming in. The traffic policeman at his post had just given his signal. Two automobiles were passing and a single pedestrian, so it is said, was working his way diagonally across the corner. Of this we are not certain.

It was a moment that impinged on miracle. Even as we recount it, knowing, as we do, the explanation, we sense the impossibility of the event. A phenomenon that holds out and, in spite of our findings, lingers into the miraculous. To be and not to be. One moment life and action, an ordinary scene of existent monotony; and the next moment nothing. The spot, the intersection of the street, the passing street-cars, the two automobiles, pedestrian, the policeman—non-existent! When events are instantaneous reports are apt to be misleading. This is what we find.

Some of those who beheld it, report a flash of bluish white light; others that it was of a greenish or even a violet hue; and others, no doubt of stronger vision, that it was not only of a predominant color but that it was shot and sparkled with a myriad specks of flame and burning.

It gave no warning and it made no sound; not even a whir. Like a hot breath out of the void. Whatever the forces that had focused, they were destruction. There was no Fourteenth and Broadway. The two automobiles, the two street-cars, the pedestrian, the policeman had been whiffed away as if they had never existed. In place of the intersection of the thoroughfares was a yawning gulf that looked down into the center of the earth to a depth of nausea.

It was instantaneous; it was without sound; no warning. A tremendous force of unlimited potentiality had been loosed to kinetic violence. It was the suddenness and the silence that belied credence. We were accustomed to associate all disaster with confusion; calamity has an affinity with pandemonium, all things of terror climax into sound. In this case there was no sound. Hence the wonder.

A hole or bore forty feet in diameter. Without a particle of warning and without a bit of confusion. The spectators one and all aver that at first they took it for nothing more than the effect of startled eyesight. Almost subtle. It was not until after a full minute's reflection that they became aware that a miracle had been wrought before their faces. Then the crowd rushed up and with awe and now awakened terror gazed down into that terrible pit.

We say "terrible" because in this case it is an exact adjective. The strangest hole that man ever looked into. It was so deep that at first it appeared to have no bottom; not even the strongest eyesight could penetrate the smoldering blackness that shrouded the depths descending. It took a stout heart and courage to stand and hold one's head on the brink for even a minute.

It was straight and precipitous; a perfect circle in shape; with sides as smooth as the effect of machine work, the pavement and stone curb had been cut as if by a razor. Of the two street cars, two automobiles and their occupants there was nothing. The whole thing so silent and complete. Not even the spectators could really believe it.

It was a hard thing to believe. The newspapers themselves, when the news came clamoring, accepted it with reluctance. It was too much like a hoax. Not until the most trusted reporters had gone and had wired in their reports would they even consider it. Then the whole world sat up and took notice.

A miracle! Like Oakland's *Press* we all of us doubted that hole. We had attained almost everything that was worth the knowing; we were the masters of the earth and its secrets and we were proud of our wisdom; naturally we refused such reports all out of reason. It must be a hoax.

But the wires were persistent. Came corroboration. A reliable news-gathering organization soon was coming through with elaborate and detailed accounts of just what was happening. We had the news from the highest and most reputable authority.

And still we doubted. It was the story itself that brought the doubting; its touch on miracle. It was too easy to pick on the reporter. There might be a hole, and all that; but this thing of no explanation! A bomb perhaps? No noise? Some new explosive? No such thing? Well, how did we know? It was better than a miracle.

Then came the scientists. As soon as could be men of great minds had been hustled to the scene. The world had long been accustomed to accept without quibble the dictum of these great specialists of fact. With their train of accomplishments behind them we would hardly be consistent were we to doubt them.

We know the scientist and his habits. He is the one man who will believe nothing until it is proved. It is his profession, and for that we pay him. He can catch the smallest bug that ever crawled out of an atom and give it a name so long that a Polish wrestler, if he had to bear it, would break under the burden. It is his very knack of getting in under that has given us our civilization. You don't baffle a scientist in our Utopia. It can't be done. Which is one of the very reasons why we began to believe in the miracle.

In a few moments a crowd of many thousands had gathered about the spot; the throng grew so dense that there was peril of some of them being crowded into the pit at the center. It took all the spare policemen of the city to beat them back far enough to string ropes from the corners. For blocks the streets were packed with wondering thousands. Street traffic was impossible. It was necessary to divert the cars to a roundabout route to keep the arteries open to the suburbs.

Wild rumors spread over the city. No one knew

how many passengers had been upon the street cars. The officials of the company, from the schedule, could pick the numbers of the cars and their crews; but who could tell of the occupants?

Telephones rang with tearful pleadings. When the first rumors of the horror leaked out every wife and mother felt the clutch of panic at her heart-strings. It was a moment of historical psychology. Out of our books we had read of this strange phase of human nature that was wont to rise like a mad screeching thing out of disaster. We had never had it in Utopia.

It was rumbling at first and out of exaggeration; as the tale passed farther back to the waiting thousands it gained with the repetition. Grim and terrible enough in fact, it ratioed up with reiteration. Perhaps after all it was not psychology. The average impulse of the human mind does not even up so exactly. In the light of what we now know it may have been the poison that had leaked into the air; the new element that was permeating the atmosphere of the city.

At first it was spasmodic. The nearest witnesses of the disaster were the first victims. A strange malady began to spot out among those of the crowd who had been at the spot of contact. This is to be noticed. A strange affliction which from the virulence and rapidity of action was quite puzzling to the doctors.

Those among the physicians who would consent to statement gave it out that it was breaking down of tissue. Which of course it was; the new element that was radiating through the atmosphere of the city. They did not know it then.

The pity of it! The subtle, odorless pall was silently shrouding out over the city. In a short time the hospitals were full and it was necessary to call in medical aid from San Francisco. They had not even time for diagnosis. The new plague was fatal almost at conception. Happily the scientists made the discovery.

It was the pall. At the end of three hours it was known that the death sheet was spreading out over Oakland. We may thank our stars that it was learned so early. Had the real warning come a few hours later the death list would have been appalling.

A new element had been discovered; or if not a new element, at least something which was tipping over all the laws of the atmospheric envelope. A new combination that was fatal. When the news and the warning went out, panic fell upon the bay shore.

But some men stuck. In the face of such terror there were those who stayed and with grimness and sacrifice hung to their posts for mankind. There are some who had said that the stuff of heroes had passed away. Let them then consider the case of John Robinson.

Robinson was a telegraph operator. Until that day he was a poor unknown; not a whit better than his fellows. Now he has a name that will run in history. In the face of what he knew he remained under the blanket. The last words out of Oakland—his last message:

"Whole city of Oakland in grip of strange madness. Keep out of Oakland,"—following which came a haphazard personal commentary:

"I can feel it coming on myself. It is like what our ancestors must have felt when they were getting drunk—alternating desires of fight and singing—a strange sensation, light, and ecstatic with a spasmodic twitching over the forehead. Terribly thirsty. Will stick it out if I can get enough water. Never so dry in my life."

Followed a lapse of silence. Then the last words:

"I guess we're done for. There is some poison in the atmosphere—something. It has leaked, of course, out of this thing at Fourteenth and Broadway. Dr. Manson of the American Institute says it is something new that is forming a fatal combination; but he cannot understand a new element; the quantity is too enormous.

"Populace has been warned out of the city. All roads are packed with refugees. The Berkeley Hills are covered as with flies—north, east, and south and on the boats to Frisco. The poison, whatever it is, is advancing in a ring from Fourteenth and Broadway. You have got to pass it to these old boys of science. They are staying with that ring. Already they have calculated the rate of its advance and have given warning. They don't know what it is, but they have figured just how fast it is moving. They have saved the city.

"I am one of the few men now inside the wave. Out of curiosity I have stuck. I have a jug and as long as it lasts I shall stay. Strange feeling. Dry, dry, dry, as if the juice of one's life cells was turning into dust. Water evaporating almost instantly. It cannot pass through glass. Whatever the poison it has an affinity for moisture. Do not understand it. I have had enough—"

That was all. After that there was no more news out of Oakland. It is the only word that we have out of the pall itself. It was short and disconnected and a bit slangy; but for all that a basis from which to conjecture.

It is a strange and glorious thing how some men will stick to the post of danger. This operator knew that it meant death; but he held with duty. Had he been a man of scientific training his information might have been of incalculable value. However, may God bless his heroic soul!

What we know is thirst! The word that came from the experts confirmed it. Some new element of force was stealing or sapping the humidity out of the atmosphere. Whether this was combining and entering into a poison could not be determined.

Chemists worked frantically at the outposts of the advancing ring. In four hours it had covered the city; in six it had reached San Leandro, and was advancing on toward Haywards.

It was a strange story and incredible from the beginning. No wonder the world doubted. Such a thing had never happened. We had accepted the the law of judging the future by the past; by deduction; we were used to sequence and to law; to the laws of Nature. This thing did look like a miracle; which was merely because—as usually it is with "miracles"—we could not understand it. Happily, we can look back now and still place our faith in Nature.

The world doubted and was afraid. Was this peril to spread slowly over the whole state of California and then on to the—world. Doubt always precedes terror. A tense world waited. Then came the word of reassurance—from the scientists:

"Danger past; vigor of the ring is abating. Calculation has deduced that the wave is slowly decreasing in potentiality. It is too early yet to say that there will be recessions, as the wave is just reaching its zenith. What it is we cannot say; but it cannot be inexplicable. After a little time it will all be explained. Say to the world there is no cause for alarm."

But the world was now aroused; as it doubted the truth before, it doubted now the reassurance. Did the scientists know? Could they have only seen the future! We know now that they did not. There was but one man in all the world great enough to foresee disaster. That man was Charley Huyck.

CHAPTER III

THE MOUNTAIN THAT WAS

On the same day on which all this happened, a young man, Pizzozi by name and of Italian parentage, left the little town of Ione in Amador County, California, with a small truck-load of salt. He was one of the cattlemen whose headquarters or home-farms are clustered about the foot-hills of the Sierras. In the wet season they stay with their home-land in the valley; in the summer they penetrate into the mountains. Pizzozi had driven in from the mountains the night before, after salt. He had been on the road since midnight.

Two thousand salt-hungry cattle do not allow time for gossip. With the thrift of his race, Joe had loaded up his truck and after a running snatch at breakfast was headed back into the mountains. When the news out of Oakland was thrilling around the world he was far into the Sierras.

The summer quarters of Pizzozi were close to Mt. Heckla, whose looming shoulders rose square in the center of the pasture of the three brothers. It was not a noted mountain—that is, until this day—and had no reason for a name other than that it was a peak outstanding from the range; like a thousand others; rugged, pine clad, coated with deer-brush, red soil, and mountain miserie.

It was the deer-brush that gave it value to the Pizzozis—a succulent feed richer than alfalfa. In the early summer they would come up with bony cattle. When they returned in the fall they went out driving beef-steaks. But inland cattle must have more than forage. Salt is the tincture that makes them healthy.

It was far past the time of the regular salting. Pizzozi was in a hurry. It was nine o'clock when he passed through the mining town of Jackson; and by twelve o'clock—the minute of the disaster—he was well beyond the last little hamlet that linked up with civilization. It was four o'clock when he drew up at the little pine-sheltered cabin that was his headquarters for the summer.

He had been on the road since midnight. He was tired. The long weary hours of driving, the grades, the unvaried stress though the deep red dust, the heat, the stretch of a night and day had worn both mind and muscle. It had been his turn to go after salt; now that he was here, he could lie in for a bit of rest while his brothers did the salting.

It was a peaceful spot! this cabin of the Pizzozis; nestled among the virgin shade trees, great tall feathery sugar-pines with a mountain live-oak spreading over the door yard. To the east the rising heights of the Sierras, misty, gray-green, undulating into the distance to the pink-white snow crests of Little Alpine. Below in the canyon, the waters of the Mokolumne; to the west the heavy dark masses of Mt. Heckla, deep verdant in the cool of coming evening.

Joe drew up under the shade of the live oak. The air was full of cool, sweet scent of the afternoon. No moment could have been more peaceful; the blue clear sky overhead, the breath of summer, and the soothing spice of the pine trees. A shepherd dog came bounding from the doorway to meet him.

It was his favorite cow dog. Usually when Joe came back the dog would be far down the road to forestall him. He had wondered, absently, coming up, at the dog's delay. A dog is most of all a creature of habit; only something unusual would detain him. However the dog was here; as the man drew up he rushed out to greet him. A rush, a circle, a bark, and a whine of welcome. Perhaps the dog had been asleep.

But Joe noticed that whine; he was wise in the ways of dogs; when Ponto whined like that there was something unusual. It was not effusive or spontaneous; but rather of the delight of succor. After scarce a minute of petting, the dog squatted and faced to the westward. His whine was startling; almost fearful.

Pizzozi knew that something was wrong. The dog drew up, his stub tail erect, and his hair all bristled; one look was for his master and the other whining and alert to Mt. Heckla. Puzzled, Joe gazed at the mountain. But he saw nothing.

Was it the canine instinct, or was it coincidence? We have the account from Pizzozi. From the words of the Italian, the dog was afraid. It was not the way of Ponto; usually in the face of danger he was alert and eager; now he drew away to the cabin. Joe wondered.

Inside the shack he found nothing but evidence of departure. There was no sign of his brothers. At was his turn to go to sleep; he was wearied almost to numbness, for forty-eight hours he had not closed an eyelid. On the table were a few unwashed dishes and crumbs of eating. One of the three rifles that hung usually on the wall was missing; the coffee pot was on the floor with the lid open. On the bed the coverlets were mussed up. It was a temptation to go to sleep. Back of him the open door and Ponto. The whine of the dog drew his will and his consciousness into correlation. A faint rustle in the sugar-pines soughed from the canyon.

Joe watched the dog. The sun was just glowing over the crest of the mountain; on the western line the deep lacy silhouettes of the pine trees and the bare bald head of Heckla. What was it? His brothers should be on hand for the salting; it was not their custom to put things off for the morrow. Shading his eyes he stepped out of the doorway.

The dog rose stealthily and walked behind him, uneasily, with the same insistent whine and ruffled hair. Joe listened. Only the mountain murmurs, the sweet breath of the forest, and in the lapse of bated breath the rippling melody of the river far below him.

"What you see, Ponto? What you see?"

At the words the dog sniffed and advanced slight-

ly—a growl and then a sudden scurry to the heels of his master. Ponto was afraid. It puzzled Pizzozi. But whatever it was that roused his fear, it was on Mt. Heckla.

This is one of the strange parts of the story—the part the dog played, and what came after. Although it is a trivial thing it is one of the most inexplicable. Did the dog sense it? We have no measure for the range of instinct, but we do have it that before the destruction of Pompeii the beasts roared in their cages. Still, knowing what we now know, it is hard to accept the analogy. It may, after all have been coincidence.

Nevertheless it decided Pizzozi. The cattle needed salt. He would catch up his pinto and ride over to the salt logs.

There is no moment in the cattle industry quite like the salting on the range. It is not the most spectacular perhaps, but surely it is not lacking in intenseness. The way of Pizzozi was musical even if not operatic. He had a long-range call, a rising rhythm that for depth and tone had a peculiar effect on the shattered stillness. It echoed and reverberated, and peeled from the top to the bottom of the mountain. The salt call is the talisman of the mountains.

Alleewahoo!"

Two thousand cattle augmented by a thousand strays held up their heads in answer. The sniff of the welcome salt call! Through the whole range of the man's voice the stock stopped in their leafy pasture and listened.

"Alleewahoo!"

An old cow bellowed. It was the beginning of bedlam. From the bottom of the mountain to the top and for miles beyond went forth the salt call. Three thousand head bellowed to the delight of salting.

Pizzozi rode along. Each lope of his pinto through the tall tangled miserie was accented. *"Alleewahoo! Alleewahoo!"* The rending of brush, the confusion, and pandemonium spread to the very bottom of the leafy gulches. It is no place for a pedestrian. Heads and tails erect, the cattle were stampeding toward the logs.

A few head had beat him to it. These he quickly drove away and cut the sack open. With haste he poured it upon the logs; then he rode out of the dust that for yards about the place was tramped to the finest powder. The center of a herd of salting range stock is no place for comfort. The man rode away; to the left he ascended a low knob where he would be safe from the stampede; but close enough to distinguish the brands.

In no time the place was alive with milling stock. Old cows, heifers, bulls, calves, steers rushed out of the crashing brush into the clearing. There is no moment exactly like it. What before had been a broad clearing of brownish reddish dust was trampled into a vast cloud of bellowing blur, a thousand cattle, and still coming. From the farthest height came the echoing call. Pizzozi glanced up at the top of the mountain.

And then a strange thing happened.

From what we gathered from the excited accounts of Pizzozi it was instantaneous; and yet by the same words it was of such a peculiar and beautiful effect as never to be forgotten. A bluish azure shot though with a myriad flecks of crimson, a peculiar vividness of opalescence; the whole world scintillating; the sky, the air, the mountain, a vast flame of color so wide and so intense that there seemed not a thing beside it. And instantaneous—it was over almost before it was started. No noise or warning, and no subsequent detonation: as silent as winking and much, indeed, like the queer blur of color induced by defective vision. All in the fraction of a second. Pizzozi had been gazing at the mountain. There was no mountain!

Neither were there cattle. Where before had been the shade of the towering peak was now the rays of the western sun. Where had been the blur of the milling herd and its deafening pandemonium was now a strange silence. The transparency of the air was unbroken into the distance. Far off lay a peaceful range in the sunset. There was no mountain! Neither were there cattle!

For a moment the man had enough to do with his plunging mustang. In the blur of the subsequent second Pizzozi remembers nothing but a convulsion of fighting horseflesh bucking, twisting, plunging, the gentle pinto suddenly maddened into a demon. It required all the skill of the cowman to retain his saddle.

He did not know that he was riding on the rim of Eternity. In his mind was the dim subconscious realization of a thing that had happened. In spite of all his efforts the horse fought backward. It was some moments before he conquered. Then he looked.

It was a slow, hesitant moment. One cannot account for what he will do in the open face of a miracle. What the Italian beheld was enough for terror. The sheer immensity of the thing was too much for thinking.

At the first sight his simplex mind went numb from sheer impotence; his terror to a degree frozen. The whole of Mt. Heckla had been shorn away; in the place of its darkened shadow the sinking sun was blinking in his face; the whole western sky all golden. There was no vestige of the flat salt-clearing at the base of the mountain. Of the two thousand cattle milling in the dust not a one remained. The man crossed himself in stupor. Mechanically he put the spurs to the pinto.

But the mustang would not. Another struggle with bucking, fighting, maddened horseflesh. The cow-man must needs bring in all the skill of his training; but by the time he had conquered his mind had settled within some scope of comprehension.

The pony had good reasons for his terror. This time though the man's mind reeled it did not go dumb at the clash of immensity. Not only had the whole mountain been torn away, but its roots as well. The whole thing was up-side down; the world torn to its entrails. In place of what had been the height was a gulf so deep that its depths were blackness.

He was standing on the brink. He was a cool man, was Pizzozi; but it was hard in the confusion of such a miracle to think clearly; much less to reason. The prancing mustang was snorting with terror. The man glanced down.

The very dizziness of the gulf, sheer, losing itself into shadows and chaos overpowered him, his mind

now clear enough for perception reeled at the distance. The depth was nauseating. His whole body succumbed to a sudden qualm of weakness: the sickness that comes just before falling. He went limp in the saddle.

But the horse fought backward; warned by instinct it drew back from the sheer banks of the gulf. It had no reason but its nature. At the instant it sensed the snapping of the iron will of its master. In a moment it had turned and was racing on its wild way out of the mountains. At supreme moments a cattle horse will always hit for home. The pinto and its limp rider were fleeing on the road to Jackson.

Pizzozi had no knowledge of what had occurred in Oakland. To him the whole thing had been but a flash of miracle; he could not reason. He did not curb his horse. That he was still in the saddle was due more to the near-instinct of his training than to his volition.

He did not even draw up at the cabin. That he could make better time with his motor than with his pinto did not occur to him; his mind was far too busy; and, now that the thing was passed, too full of terror. It was forty-four miles to town; it was night and the stars were shining when he rode into Jackson.

CHAPTER IV.

"MAN—A GREAT LITTLE BUG"

And what of Charley Huyck? It was his anticipation, and his training which leaves us here to tell the story. Were it not for the strange manner of his rearing, and the keen faith and appreciation of Dr. Robold there would be to-day no tale to tell. The little incident of the burning-glass had grown. If there is no such thing as Fate there is at least something that comes very close to being Destiny.

On this night we find Charley at the observatory in Arizona. He is a grown man and a great one, and though mature not so very far drawn from the lad we met on the street selling papers. Tall, slender, very slightly stooped and with the same idealistic, dreaming eyes of the poet. Surely no one at first glance would have taken him for a scientist. Which he was and was not.

Indeed, there is something vastly different about the science of Charley Huyck. Science to be sure, but not prosaic. He was the first and perhaps the last of the school of Dr. Robold, a peculiar combination of poetry and fact, a man of vision, of vast, far-seeing faith and idealism linked and based on the coldest and sternest truths of materialism. A peculiar tenet of the theory of Robold: "True science to be itself should be half poetry." Which any of us who have read or been at school know it is not. It is a peculiar theory and though rather wild still with some points in favor.

We all of us know our schoolmasters; especially those of science and what they stand for. Facts, facts, nothing but facts; no dreams or romance. Looking back we can grant them just about the emotions of cucumbers. We remember their cold, hard features, the prodding after fact, the accumulation of data. Surely there is no poetry in them.

Yet we must not deny that they have been by far the most potent of all men in the progress of civilzation. Not even Robold would deny it.

The point is this:

The doctor maintained that from the beginning the progress of material civilization had been along three distinct channels; science, invention, and administration. It was simply his theory that the first two should be one; that the scientist deal not alone with dry fact but with invention, and that the inventor, unless he is a scientist, has mastered but half his trade. "The really great scientist should be a visionary," said Robold, "and an inventor is merely a poet, with tools."

Which is where we get Charley Huyck. He was a visionary, a scientist, a poet with tools, the protégé of Dr. Robold. He dreamed things that no scientist had thought of. And we are thankful for his dreaming.

The one great friend of Huyck was Professor Williams, a man from Charley's home city, who had known him even back in the days of selling papers. They had been cronies in boyhood, in their teens, and again at College. In after years, when Huyck had become the visionary, the mysterious Man of the Mountain, and Williams a great professor of astronomy, the friendship was as strong as ever.

But there was a difference between them. Williams was exact to acuteness, with not a whit of vision beyond pure science. He had been reared in the old stone-cold theory of exactness; he lived in figures. He could not understand Huyck or his reasoning. Perfectly willing to follow as far as facts permitted he refused to step off into speculation.

Which was the point between them. Charley Huyck had vision; although exact as any man, he had ever one part of his mind soaring out into speculation. What is, and what might be, and the gulf between. To bridge the gulf was the life work of Charley Huyck.

In the snug little office in Arizona we find them; Charley with his feet poised on the desk and Williams precise and punctilious, true to his training, defending the exactness of his philosophy. It was the cool of the evening; the sun was just mellowing the heat of the desert. Through the open door and windows a cool wind was blowing. Charley was smoking; the same old pipe had been the bane of Williams's life at college.

"Then we know?" he was asking.

"Yes," spoke the professor, "what we know, Charley, we know; though of course it is not much. It is very hard, nay impossible, to deny figures. We have not only the proofs of geology but of astronomical calculation, we have facts and figures plus our sidereal relations all about us.

"The world must come to an end. It is a hard thing to say it, but it is a fact of science. Slowly, inevitably, ruthlessly, the end will come. A mere question of arithmetic."

Huyck nodded. It was his special function in life to differ with his former roommate. He had come down from his own mountain in Colorado just for the delight of difference.

"I see. Your old calculations of tidal retardation. Or if that doesn't work the loss of oxygen and the water."

"Either one or the other; a matter of figures; the earth is being drawn every day by the sun: its rotation is slowing up; when the time comes it will

act to the sun in exactly the same manner as the moon acts to the earth to-day."

"I understand. It will be a case of eternal night for one side of the earth, and eternal day for the other. A case of burn up or freeze up."

"Exactly. Of if it doesn't reach to that, the water gas will gradually lose out into sidereal space and we will go to desert. Merely a question of the old dynamical theory of gases; of the molecules to be in motion, to be forever colliding and shooting out into variance.

"Each minute, each hour, each day we are losing part of our atmospheric envelope. In course of time it will all be gone; when it is we shall be all desert. For intance, take a look outside. This is Arizona. Once it was the bottom of a deep blue sea. Why deny when we can already behold the beginning."

The other laughed.

"Pretty good mathematics at that, professor. Only—"

"Only?"

"That it is merely mathematics."

"Merely mathematics?" The professor frowned slightly. "Mathematics do not lie, Charlie, you cannot get away from them. What sort of fanciful argument are you bringing up now?"

"Simply this," returned the other, "that you depend too much on figures. They are material and in the nature of things can only be employed in a calculation of what *may* happen in the future. You must have premises to stand on, facts. Your figures are rigid: they have no elasticity; unless your foundations are permanent and faultless your deductions will lead you only into error."

"Granted; just the point: we know where we stand. Wherein are we in error?"

It was the old point of difference. Huyck was ever crashing down the idols of pure materialism. Williams was of the world-wide school.

"You are in error, my dear professor, in a very little thing and a very large one."

"What is that?"

"Man."

"Man?"

"Yes. He's a great little bug. You have left him out of your calculation—which he will upset."

The professor smiled indulgently. "I'll allow; he is at least a conceited bug; but you surely cannot grant him much when pitted against the Universe."

"No? Did it ever occur to you, Professor, what the Universe is? The stars for instance? Space, the immeasurable distance of Infinity. Have you never dreamed?"

Williams could not quite grasp him. Huyck had a habit that had grown out of childhood. Always he would allow his opponent to commit himself. The professor did not answer. But the other spoke.

"Ether. You know it. Whether mind or granite. For instance, your desert." He placed his finger to his forehead. "Your mind, my mind—localized ether."

"What are you driving at?"

"Merely this. Your universe has intelligence. It has mind as well as matter. The little knot called the earth is becoming conscious. Your deductions are incompetent unless they embrace mind as well as matter, and they cannot do it. Your mathematics are worthless."

The professor bit his lip.

"Always fanciful," he commented, "and visionary. Your argument is beautiful, Charley, and hopeful. I would that it were true. But all things must mature. Even an earth must die."

"Not our earth. You look into the past, professor, for your proof, and I look into the future. Give a planet long enough time in maturing and it will develop life; give it still longer and it will produce intelligence. Our own earth is just coming into consciousness; it has thirty million years, at least, to run."

"You mean?"

"This. That man is a great little bug. Mind: the intelligence of the earth."

This of course is a bit dry. The conversation of such men very often is to those who do not care to follow them. But it is very pertinent to what came after. We know now, everyone knows, that Charley Huyck was right. Even Professor Williams admits it. Our earth is conscious. In less than twenty-four hours it had to employ its consciousness to save itself from destruction.

A bell rang. It was the private wire that connected the office with the residence. The professor picked up the receiver. "Just a minute. Yes? All right." Then to his companion: "I must go over to the house, Charley. We have plenty of time. Then we can go up to the observatory."

Which shows how little we know about ourselves. Poor Professor Williams! Little did he think that those casual words were the last he would ever speak to Charley Huyck.

The whole world seething! The beginning of the end! Charley Huyck in the vortex. The next few hours were to be the most strenuous of the planet's history.

CHAPTER V.

APPROACHING DISASTER

It was night. The stars which had just been coming out were spotted by millions over the sleeping desert. One of the nights that are peculiar to the country, which we all of us know so well, if not from experience, at least from hearsay; mellow, soft, sprinkled like salted fire, twinkling.

Each little light a message out of infinity. Cosmic grandeur; mind: chaos, eternity—a night for dreaming. Whoever had chosen the spot in the desert had picked full well. Charley had spoken of consciousness. On that night when he gazed up at the stars he was its personification. Surely a good spirit was watching over the earth.

A cool wind was blowing; on its breath floated the murmurs from the village; laughter, the song of children, the purring of motors and the startled barking of a dog; the confused drone of man and his civilization. From the eminence the observatory looked down upon the town and the sheen of light, spotting like jewels in the dim glow of the desert. To the east the mellow moon just tipping over the mountain. Charley stepped to the window.

He could see it all. The subtle beauty that was so akin to poetry: the stretch of desert, the mountains, the light in the eastern sky; the dull level

shadow that marked the plain to the northward. To the west the mountains looming black to the star line. A beautiful night; sweetened with the breath of desert and tuned to its slumber.

Across the lawn he watched the professor descending the pathway under the acacias. An automobile was coming up the driveway; as it drove up under the arcs he noticed its powerful lines and its driver; one of those splendid pleasure cars that have returned to favor during the last decade; the soft purr of its motor, the great heavy tires and its coating of dust. There is a lure about a great car coming in from the desert. The car stopped, Charley noted. Doubtless some one for Williams. If it were, he would go into the observatory alone.

In the strict sense of the word Huyck was not an astronomer. He had not made it his profession. But for all that he knew things about the stars that the more exact professors had not dreamed of. Charley was a dreamer. He had a code all his own and a manner of reasoning. Between him and the stars lay a secret.

He had not divulged it, or if he had, it was in such an open way that it was laughed at. It was not cold enough in calculation or, even if so, was too far from their deduction. Huyck had imagination; his universe was alive and potent; it had intelligence. Matter could not live without it. Man was its manifestation; just come to consciousness. The universe teemed with intelligence. Charley looked at the stars.

He crossed the office, passed through the reception-room and thence to the stairs that led to the observatory. In the time that would lapse before the coming of his friend he would have ample time for observation. Somehow he felt that there was time for discovery. He had come down to Arizona to employ the lens of his friend the astronomer. The instrument that he had erected on his own mountain in Colorado had not given him the full satisfaction that he expected. Here in Arizona, in the dry clear air, which had hitherto given such splendid results, he hoped to find what he was after. But little did he expect to discover the terrible thing he did.

It is one of the strangest parts of the story that he should be here at the very moment when Fate and the world's safety would have had him. For years he and Dr. Robold had been at work on their visionary projects. They were both dreamers. While others had scoffed they had silently been at their great work on kinetics.

The boy and the burning glass had grown under the tutelage of Dr. Robold: the time was about at hand when he could out-rival the saying of Archimedes. Though the world knew it not, Charley Huyck had arrived at the point where he could literally burn up the earth.

But he was not sinister; though he had the power he had of course not the slightest intention. He was a dreamer and it was part of his dream that man break his thraldom to the earth and reach out into the universe. It was a great conception and were it not for the terrible event which took his life we have no doubt but that he would have succeeded.

It was ten-thirty when he mounted the steps and seated himself. He glanced at his watch: he had a good ten minutes. He had computed before just the time for the observation. For months he had waited for just this moment; he had not hoped to be alone and now that he was in solitary possession he counted himself fortunate. Only the stars and Charley Huyck knew the secret; and not even he dreamed what it would amount to.

From his pocket he drew a number of papers; most of them covered with notations; some with drawings; and a good sized map in colors. This he spread before him, and with his pencil began to draw right across its face a net of lines and cross lines. A number of figures and a rapid computation. He nodded and then he made the observation.

It would have been interesting to study the face of Charley Huyck during the next few moments. At first he was merely receptive, his face placid but with the studious intentness of one who has come to the moment: and as he began to find what he was after——an eagerness of satisfaction. Then a queer blankness; the slight movement of his body stopped, and the tapping of his feet ceased entirely.

For a full five minutes an absolute intentness. During that time he was out among the stars beholding what not even he had dreamed of. It was more than a secret: and what it was only Charley Huyck of all the millions of men could have recognized. Yet it was more than even he had expected. When he at last drew away his face was chalk-like; great drops of sweat stood on his forehead: and the terrible truth in his eyes made him look ten years older.

"My God!"

For a moment indecision and strange impotence. The truth he had beheld numbed action; from his lips the mumbled words:

"This world; my world; our great and splendid mankind!"

A sentence that was despair and a benediction.

Then mechanically he turned back to confirm his observation. This time, knowing what he would see, he was not so horrified: his mind was cleared by the plain fact of what he was beholding. When at last he drew away his face was settled.

He was a man who thought quickly—thank the stars for that—and, once he thought, quick to spring to action. There was a peril poising over the earth. If it were to be voided there was not a second to lose in weighing up the possibilities.

He had been dreaming all his life. He had never thought that the climax was to be the very opposite of what he hoped for. In his under mind he prayed for Dr. Robold—dead and gone forever. Were he only here to help him!

He seized a piece of paper. Over its white face he ran a mass of computations. He worked like lightning; his fingers plying and his mind keyed to the pin-point of genius. Not one thing did he overlook in his calculation. If the earth had a chance he would find it.

There are always possibilities. He was working out the odds of the greatest race since creation. While the whole world slept, while the uncounted millions lay down in fond security, Charley Huyck there in the lonely room on the desert drew out their figured odds to the point of infinity.

"Just one chance in a million."

He was going to take it. The words were not out of his mouth before his long legs were leaping down the stairway. In the flash of seconds his mind was rushing into clear action. He had had years of dreaming; all his years of study and tutelage under Robold gave him just the training for such a disaster.

But he needed time. Time! Time! Why was it so precious? He must get to his own mountain. In six jumps he was in the office.

It was empty. The professor had not returned. He thought rather grimly and fleetingly of their conversation a few minutes before; what would Williams think now of science and consciousness? He picked up the telephone receiver. While he waited he saw out of the corner of his eye the car in the driveway. It was—

"Hello. The professor? What? Gone down to town? No! Well, say, this is Charley"—he was watching the car in front of the building. "Say, hello—tell him I have gone home, home! H-o-m-e to Colorado— to Colorado, yes—to the mountain —the m-o-u-n-t-a-i-n. Oh, never mind—I'll leave a note.

He clamped down the receiver. On the desk he scrawled on a piece of paper:

ED:

"Look these up. I'm bound for the mountain. No time to explain. There's a car outside. Stay with the lens. Don't leave it. If the earth goes up you wil' know that I have not reached the mountain."

Beside the note he placed one of the maps that he had in his pocket——with his pencil drew a black cross just above the center. Under the map were a number of computations.

It is interesting to note that in the stress of the great critical moment he forgot the professor's title. It was a good thing. When Williams read it he recognized the significance. All through their life in crucial moments he had been "Ed." to Charley.

But the note was all he was destined to find. A brisk wind was blowing. By a strange balance of fate the same movement that let Huyck out of the building ushered in the wind and upset calculation.

It was a little thing, but it was enough to keep all the world in ignorance and despair. The eddy whisking in through the door picked up the precious map, poised it like a tiny plane, and dropped it neatly behind a bookcase.

CHAPTER VI

A RACE TO SAVE THE WORLD

Huyck was working in a straight line. Almost before his last words on the phone were spoken he had requisitioned that automobile outside; whether money or talk, faith or force, he was going to have it. The hum of the motor sounded in his ears as he ran down the steps. He was hatless and in his shirt-sleeves. The driver was just putting some tools in the car. With one jump Charley had him by the collar.

"Five thousand dollars if you can get me to Robold Mountain in twenty hours."

The very suddenness of the rush caught the man by surprise and lurched him against the car, turning him half around. Charley found himself gazing into dull brown eyes and sardonic laughter: a long, thin nose and lips drooped at the corners, then as suddenly tipping up—a queer creature, half devil, half laughter, and all fun.

"Easy, Charley, easy! How much did you say? Whisper it."

It was Bob Winters. Bob Winters and his car. And waiting. Surely no twist of fortune could have been greater. He was a college chum of Huyck's and of the professor's. If there was one man that could make the run in the time allotted, Bob was he. But Huyck was impersonal. With the burden on his mind he thought of naught but his destination.

"Ten thousand!" he shouted.

The man held back his head. Huyck was far too serious to appreciate mischief. But not the man.

"Charley Huyck, of all men. Did young Lochinvar come out of the West? How much did you say? This desert air and the dust, 'tis hard on the hearing. She must be a young, fair maiden. Ten thousand."

"Twenty thousand. Thirty thousand. Damnation, man, you can have the mountain. Into the car."

By sheer subjective strength he forced the other into the machine. It was not until they were shooting out of the grounds on two wheels that he realized that the man was Bob Winters. Still the workings of fate.

The madcap and wild Bob of the races! Surely Destiny was on the job. The challenge of speed and the premium. At the opportune moment before disaster the two men were brought together. Minutes weighed up with centuries and hours outbalanced millenniums. The whole world slept; little did it dream that its very life was riding north with these two men into the midnight.

Into the midnight! The great car, the pride of Winter's heart, leaped between the pillars. At the very outset, madcap that he was, he sent her into seventy miles an hour; they fairly jumped off the hill into the village. At a full seventy-five he took the curve; she skidded, sheered half around and swept on.

For an instant Charley held his breath. But the master hand held her; she steadied, straightened, and shot out into the desert. Above the whir of the motor, flying dust and blurring what-not, Charley got the tones of his companion's voice. He had heard the words somewhere in history.

"Keep your seat, Mr. Greely. Keep your seat!"

The moon was now far up over the mountain, the whole desert was bathed in a mellow twilight; in the distance the mountains brooded like an uncertain slumbering cloud bank. They were headed straight to the northward; though there was a better road round about, Winters had chosen the hard, rocky bee-line to the mountain.

He knew Huyck and his reputation; when Charley offered thirty thousand for a twenty-hour drive it was not mere byplay. He had happened in at the observatory to drop in on Williams on his way to the coast. They had been classmates; likewise he and Charley.

When the excited man out of the observatory had seized him by the collar, Winters merely had laughed. He was the speed king. The three boys who had

gone to school were now playing with the destiny of the earth. But only Huyck knew it.

Winters wondered. Through miles and miles of fleeting sagebrush, cacti and sand and desolation, he rolled over the problem. Steady as a rock, slightly stooped, grim and as certain as steel he held to the north. Charley Huyck by his side, hatless, coatless, his hair dancing to the wind, all impatience. Why was it? Surely a man even for death would have time to get his hat.

The whole thing spelled speed to Bob Winters; perhaps it was the infusion of spirit or the intensity of his companion; but the thrill ran into his vitals. Thirty thousand dollars—for a stake like that—what was the balance? He had been called Wild Bob for his daring; some had called him insane; on this night his insanity was enchantment.

It was wild; the lee of the giant roadster a whirring shower of gravel: into the darkness, into the night the car fought over the distance. The terrific momentum and the friction of the air fought in their faces; Huyck's face was unprotected: in no time his lips were cracked, and long before they had crossed the level his whole face was bleeding.

But he heeded it not. He only knew that they were moving; that slowly, minute by minute, they were cutting down the odds that bore disaster. In his mind a maze of figures; the terrible sight he had seen in the telescope and the thing impending. Why had he kept his secret?

Over and again he impeached himself and Dr. Robold. It had come to this. The whole world sleeping and only himself to save it. Oh, for a few minutes, for one short moment! Would he get it?

At last they reached the mountains. A rough, rocky road, and but little traveled. Happily Winters had made it once before, and knew it. He took it with every bit of speed they could stand, but even at that it was diminished to a minimum.

For hours they fought over grades and gulches, dry washouts and boulders. It was dawn, and the sky was growing pink when they rode down again upon the level. It was here that they ran across their first trouble; and it was here that Winters began to realize vaguely what a race they might be running.

The particular level which they had entered was an elbow of the desert projecting into the mountains just below a massive, newly constructed dam. The reservoir had but lately been filled, and all was being put in readiness for the dedication.

An immense sheet of water extending far back into the mountains—it was intended before long to transform the desert into a garden. Below, in the valley, was a town, already the center of a prosperous irrigation settlement; but soon, with the added area, to become a flourishing city. The elbow, where they struck it, was perhaps twenty miles across. Their northward path would take them just outside the tip where the foothills of the opposite mountain chain melted into the desert. Without ado Winters put on all speed and plunged across the sands. And then:

It was much like winking; but for all that something far more impressive. To Winters, on the left hand of the car and with the east on the right hand, it was much as if the sun had suddenly leaped up and as suddenly plumped down behind the horizon—a vast vividness of scintillating opalescence: an azure, flaming diamond shot by a million fire points.

Instantaneous and beautiful. In the pale dawn of the desert air its wonder and color were beyond all beauty. Winters caught it out of the corner of his eye; it was so instantaneous and so illusive that he was not certain. Instinctively he looked to his companion.

But Charley, too, had seen it. His attitude of waiting and hoping was vigorized into vivid action. He knew just what it was. With one hand he clutched Winters and fairly shouted.

"On, on, Bob! On, as you value your life. Put into her every bit of speed you have got."

At the same instant, at the same breath came a roar that was not to be forgotten; crunching, rolling, terrible—like the mountain moving.

Bob knew it. It was the dam. Something had broken it. To the east the great wall of water fall-out of the mountains! A beautiful sight and terrible; a relentless glassy roller fringed along its base by a lace of racing foam. The upper part was as smooth as crystal; the stored-up waters of the mountain moving out compactly. The man thought of the little town below and its peril. But Huyck thought also. He shouted in Winter's ear:

"Never mind the town. Keep straight north. Over yonder to the point of the water. The town will have to drown."

It was inexorable; there was no pity; the very strength and purpose of the command drove into the other's understanding. Dimly now he realized that they were really running a race against time. Winters was a daredevil; the very catastrophe sent a thrill of exultation through him. It was the climax, the great moment of his life, to be driving at a hundred miles an hour under that wall of water.

The roar was terrible. Before they were half across it seemed to the two men that the very sound would drown them. There was nothing in the world but pandemonium. The strange flash was forgotten in the terror of the living wall that was reaching out to engulf them. Like insects they whizzed in the open face of the deluge. When they had reached the tip they were so close that the outrunning fringe of the surf was at their wheels.

Around the point with the wide open plain before them. With the flood behind them it was nothing to outrun it. The waters with a wider stretch spread out. In a few moments they had left all behind them.

But Winters wondered; what was the strange flash of evanescent beauty? He knew this dam and its construction; to outlast the centuries. It had been whiffed in a second. It was not lightning. He had heard no sound other than the rush of the waters. He looked to his companion.

Hucyk nodded.

"That's the thing we are racing. We have only a few hours. Can we make it?"

Bob had thought that he was getting all the speed possible out of his motor. What it yielded from that moment on was a revelation.

It is not safe and hardly possible to be driving at such speed on the desert. Only the best car and a firm roadway can stand it. A sudden rut, squirrel hole, or pocket of sand is as good as destruction. They rushed on till noon.

Not even Winters, with all his alertness, could avoid it. Perhaps he was weary. The tedious hours, the racking speed had worn him to exhaustion. They had ceased to individualize, their way a blur, a nightmare of speed and distance.

It came suddenly, a blind barranca—one of those sunken, useless channels that are death to the unwary. No warning.

It was over just that quickly. A mere flash of consciousness plus a sensation of flying. Two men broken on the sands and the great, beautiful roadster a twisted ruin.

CHAPTER VII.

A RIVEN CONTINENT

But back to the world. No one knew about Charley Huyck nor what was occurring on the desert. Even if we had it would have been impossible to construe connection.

After the news out of Oakland, and the destruction of Mt. Heckla, we were far too appalled. The whole thing was beyond us. Not even the scientists with all their data could find one thing to work on. The wires of the world buzzed with wonder and with panic. We were civilized. It is really strange how quickly, in spite of our boasted powers, we revert to the primitive.

Superstition cannot die. Where was no explanation must be miracle. The thing had been repeated. When would it strike again. And where?

There was not long to wait. But this time the stroke was of far more consequence and of far more terror. The sheer might of the thing shook the earth. Not a man or government that would not resign in the face of such destruction.

It was omnipotent. A whole continent had been riven. It would be impossible to give description of such catastrophe; no pen can tell it any more than it could describe the creation. We can only follow in its path.

On the morning after the first catastrophe, at eight o'clock, just south of the little city of Santa Cruz, on the north shore of the Bay of Monterey, the same light and the same, though not quite the same, instantaneousness. Those who beheld it report a vast ball of azure blue and opalescent fire and motion; a strange sensation of vitalized vibration; of personified living force. In shape like a marble, as round as a full moon in its glory, but of infinitely more beauty.

It came from nowhere; neither from above the earth nor below it. Seeming to leap out of nothing, it glided or rather vanished to the eastward. Still the effect of winking, though this time, perhaps from a distanced focus, more vivid. A dot or marble, like a full moon, burning, opal, soaring to the eastward.

And instantaneous. Gone as soon as it was come; noiseless and of phantom beauty; like a finger of the Omnipotent tracing across the world, and as terrible. The human mind had never conceived a thing so vast.

Beginning at the sands of the ocean the whole country had vanished; a chasm twelve miles wide and of unknown depth running straight to the eastward. Where had been farms and homes was nothing; the mountains had been seared like butter. Straight as an arrow.

Then the roar of the deluge. The waters of the Pacific breaking through its sands and rolling into the Gulf of Mexico. That there was no heat was evidenced by the fact that there was no steam. The thing could not be internal. Yet what was it?

One can only conceive in figures. From the shores of Santa Cruz to the Atlantic—a few seconds; then out into the eastern ocean straight out into the Sea of the Sargasso. A great gulf riven straight across the face of North America.

The path seemed to follow the sun; it bore to the eastward with a slight southern deviation. The mountains it cut like cheese. Passing just north of Fresno it seared through the gigantic Sierras halfway between the Yosemite and Mt. Whitney, through the great desert to southern Nevada, thence across northern Arizona, New Mexico, Texas, Arkansas, Mississippi, Alabama, and Georgia, entering the Atlantic at a point half-way between Brunswick and Jacksonville. A great canal twelve miles in width linking the oceans. A cataclysmic blessing. Today, with thousands of ships bearing freight over its water, we can bless that part of the disaster.

But there was more to come. So far the miracle had been sporadic. Whatever had been its force it had been fatal only on point and occasion. In a way it had been local. The deadly atmospheric combination of its aftermath was invariable in its recession. There was no suffering. The death that it dealt was the death of obliteration. But now it entered on another stage.

The world is one vast ball, and, though large, still a very small place to live in. There are few of us, perhaps, who look upon it, or even stop to think of it, as a living being. Yet it is just that. It has its currents, life, pulse, and its fevers; it is coordinate; a million things such as the great streams of the ocean, the swirls of the atmosphere, make it a place to live in. And we are conscious only, or mostly, through disaster.

A strange thing happened.

The great opal like a mountain of fire had riven across the continent. From the beginning and with each succession the thing was magnified. But it was not until it had struck the waters of the Atlantic that we became aware of its full potency and its fatality.

The earth quivered at the shock, and man stood on his toes in terror. In twenty-four hours our civilization was literally falling to pieces. We were powerful with the forces that we understood; but against this that had been literally ripped from the unknown we were insignificant. The whole world was frozen. Let us see.

Into the Atlantic! The transition. Hitherto silence. But now the roar of ten thousand million Niagaras, the waters of the ocean rolling, catapulting, roaring into the gulf that had been seared in its bosom. The Gulf Stream cut in two, the currents that tempered our civilization sheared in a second. Straight into the Sargasso Sea. The great opal, liquid fire, luminiscent, a ball like the setting sun, lay poised upon the ocean. It was the end of the earth!

What was this thing? The whole world knew of

it in a second. And not a one could tell. In less than forty hours after its first appearance in Oakland it had consumed a mountain, riven a continent, and was drinking up an ocean. The tangled sea of the Sargasso, dead calm for ages, was a cataract; a swirling torrent of maddened waters rushed to the opal—and disappeared.

It was hellish and out of madness; as beautiful as it was uncanny. The opal high as the Himalayas brooding upon the water; its myriad colors blending, winking in a phantasm of iridescence. The beauty of its light could be seen a thousand miles. A thing out of mystery and out of forces. We had discovered many things and knew much; but had guessed no such thing as this. It was vampirish, and it was literally drinking up the earth.

Consequences were immediate. The point of contact was fifty miles across, the waters of the Atlantic with one accord turned to the magnet. The Gulf Stream veered straight from its course and out across the Atlantic. The icy currents from the poles freed from the warmer barrier descended along the coasts and thence out into the Sargasso Sea. The temperature of the temperate zone dipped below the point of a blizzard.

The first word come out of London. Freezing! And in July! The fruit and entire harvest of northern Europe destroyed. Olympic games at Copenhagen postponed by a foot of snow. The river Seine frozen. Snow falling in New York. Crops nipped with frost as far south as Cape Hatteras.

A fleet of airplanes was despatched from the United States and another from the west coast of Africa. Not half of them returned. Those that did reported even more disaster. The reports that were handed in were appalling. They had sailed straight on. It was like flying into the sun; the vividness of the opalescence was blinding, rising for miles above them alluring, drawing and unholy, and of a beauty that was terror.

Only the tardy had escaped. It even drew their motors, it was like gravity suddenly become vitalized and conscious. Thousands of machines vaulted into the opalescence. From those ahead hopelessly drawn and powerless came back the warning. But hundreds could not escape.

"Back," came the wireless. "Do not come too close. The thing is a magnet. Turn back before too late. Against this man is insignificant."

Then like gnats flitting into fire they vanished into the opalescence.

The others turned back. The whole world freezing shuddered in horror. A great vampire was brooding over the earth. The greatness that man had attained to was nothing. Civilization was tottering in a day. We were hopeless.

Then came the last revelation; the truth and verity of the disaster and the threatened climax. The water level of all the coast had gone down. Vast ebb tides had gone out not to return. Stretches of sand where had been surf extended far out into the sea. Then the truth! The thing, whatever it was, was drinking up the ocean.

CHAPTER VIII.

THE MAN WHO SAVED THE EARTH

It was tragic; grim, terrible, cosmic. Out of nowhere had come this thing that was eating up the earth. Not a thing out of all our science had there been to warn us; not a word from all our wise men. We who had built up our civilization, piece by piece, were after all but insects.

We were going out in a maze of beauty into the infinity whence we came. Hour by hour the great orb of opalescence grew in splendor; the effect and the beauty of its lure spread about the earth; thrilling, vibrant like suppressed music. The old earth helpless. Was it possible that out of her bosom she could not pluck one intelligence to save her? Was there not one law—no answer?

Out on the desert with his face to the sun lay the answer. Though almost hopeless there was still some time and enough of near-miracle to save us. A limping fate in the shape of two Indians and a battered runabout at the last moment.

Little did the two red men know the value of the two men found that day on the desert. To them the débris of the mighty car and the prone bodies told enough of the story. They were Samaritans; but there are many ages to bless them.

As it was there were many hours lost. Without this loss there would have been thousands spared and an almost immeasurable amount of disaster. But we have still to be thankful. Charley Huyck was still living.

He had been stunned; battered, bruised, and unconscious; but he had not been injured vitally. There was still enough left of him to drag himself to the old runabout and call for Winters. His companion, as it happened, was in even better shape than himself, and waiting. We do not know how they talked the red men out of their relic—whether by coaxing, by threat, or by force.

Straight north. Two men battered, worn, bruised, but steadfast, bearing in that limping old motor-car the destiny of the earth. Fate was still on the job, but badly crippled.

They had lost many precious hours. Winters had forfeited his right to the thirty thousand. He did not care. He understood vaguely that there was a stake over and above all money. Huyck said nothing; he was too maimed and too much below will-power to think of speaking. What had occurred during the many hours of their unconsciousness was unknown to them. It was not until they came sheer upon the gulf that had been riven straight across the continent that the awful truth dawned on them.

To Winters it was terrible. The mere glimpse of that blackened chasm was terror. It was bottomless; so deep that its depths were cloudy; the misty haze of its uncertain shadows was akin to chaos. He understood vaguely that it was related to that terrible thing they had beheld in the morning. It was not the power of man. Some force had been loosened which was ripping the earth to its vitals. Across the terror of the chasm he made out the dim outlines of the opposite wall. A full twelve miles across.

For a moment the sight overcame even Huyck himself. Full well he knew; but knowing, as he did, the full fact of the miracle was even more than he expected. His long years under Robold, his scientific imagination had given him comprehension. Not puny steam, nor weird electricity, but force, kinetics—out of the universe.

He knew. But knowing as he did, he was overcome by the horror. Such a thing turned loose upon the earth! He had lost many hours; he had but a few hours remaining. The thought gave him sudden energy. He seized Winters by the arm.

"To the first town, Bob. To the first town—an aerodome."

There was speed in that motor for all its decades. Winters turned about and shot out in a lateral course parallel to the great chasm. But for all his speed he could not keep back his question.

"In the name of Heaven, Charley, what did it? What is it?"

Came the answer; and it drove the lust of all speed through Winters:

"Bob," said Charley, "it is the end of the world—if we don't make it. But a few hours left. We must have an airplane. I must make the mountain."

It was enough for Wild Bob. He settled down. It was only an old runabout; but he could get speed out of a wheelbarrow. He had never driven a race like this. Just once did he speak. The words were characteristic.

"A world's record, Charley. And we're going to win. Just watch us."

And they did.

There was no time lost in the change. The mere fact of Huyck's name, his appearance and the manner of his arrival was enough. For the last hours messages had been pouring in at every post in the Rocky Mountains for Charley Huyck. After the failure of all others many thousands had thought of him.

Even the government, unappreciative before, had awakened to a belated and almost frantic eagerness. Orders were out that everything, no matter what, was to be at his disposal. He had been regarded as visionary; but in the face of what had occurred, visions were now the most practical things for mankind. Besides, Professor Williams had sent out to the world the strange portent of Huyck's note. For years there had been mystery on that mountain. Could it be?

Unfortunately we cannot give it the description we would like to give. Few men outside of the regular employees have ever been to the Mountain of Robold. From the very first, owing perhaps to the great forces stored, and the danger of carelessness, strangers and visitors had been barred. Then, too, the secrecy of Dr. Robold—and the respect of his successor. But we do know that the burning glass had grown into the mountain.

Bob Winters and the aviator are the only ones to tell us; the employees, one and all, chose to remain. The cataclysm that followed destroyed the work of Huyck and Robold—but not until it had served the greatest deed that ever came out of the minds of men. And had it not been for Huyck's insistence we would not have even the account that we are giving.

It was he who insisted, nay, begged, that his companions return while there was yet a chance. Full well he knew. Out of the universe, out of space he had coaxed the forces that would burn up the earth. The great ball of luminous opalescence, and the diminishing ocean!

There was but one answer. Through the imaginative genius of Robold and Huyck, fate had worked up to the moment. The lad and the burning glass had grown to Archimedes.

What happened?

The plane neared the Mountain of Robold. The great bald summit and the four enormous globes of crystal. At least we so assume. We have Winter's word and that of the aviator that they were of the appearance of glass. Perhaps they were not; but we can assume it for description. So enormous that were they set upon a plain they would have overtopped the highest building ever constructed; though on the height of the mountain, and in its contrast, they were not much more than golf balls.

It was not their size but their effect that was startling. They were alive. At least that is what we have from Winters. Living, luminous, burning, twisting within with a thousand blending, iridescent beautiful colors. Not like electricity but something infinitely more powerful. Great mysterious magnets that Huyck had charged out of chaos. Glowing with the softest light; the whole mountain brightened as in a dream, and the town of Robold at its base lit up with a beauty that was past beholding.

It was new to Winters. The great buildings and the enormous machinery. Engines of strangest pattern, driven by forces that the rest of the world had not thought of. Not a sound; the whole works a complicated mass covering a hundred acres, driving with a silence that was magic. Not a whir nor friction. Like a living composite body pulsing and breathing the strange and mysterious force that had been evolved from Huyck's theory of kinetics. The four great steel conduits running from the globes down the side of the mountain. In the center, at a point midway between the globes, a massive steel needle hung on a pivot and pointed directly at the sun.

Winters and the aviator noted it and wondered. From the lower end of the needle was pouring a luminous stream of pale-blue opalescence, a stream much like a liquid, and of an unholy radiance. But it was not a liquid, nor fire, nor anything seen by man before.

It was force. We have no better description than the apt phrase of Winters. Charley Huyck was milking the sun, as it dropped from the end of the four living streams to the four globes that took it into storage. The four great, wonderful living globes; the four batteries; the very sight of their imprisoned beauty and power was magnetic.

The genius of Huyck and Robold! Nobody but the wildest dreamers would have conceived it. The life of the sun. And captive to man; at his will and volition. And in the next few minutes we were to lose it all! But in losing it we were to save ourselves. It was fate and nothing else.

There was but one thing more upon the mountain—the observatory and another needle apparently idle; but with a point much like a gigantic phonograph needle. It rose square out of the observatory, and to Winters it gave an impression of a strange gun, or some implement for sighting.

That was all. Coming with the speed that they were making, the airmen had no time for further investigation. But even this is comprehensive. Minus the force. If we only knew more about that or even its theory we might perhaps reconstruct the

work of Charley Huyck and Dr. Robold.

They made the landing. Winters, with his nature, would be in at the finish; but Charley would not have it.

"It is death, Bob," he said. "You have a wife and babies. Go back to the world. Go back with all the speed you can get out of your motors. Get as far away as you can before the end comes."

With that he bade them a sad farewell. It was the last spoken word that the outside world had from Charley Huyck.

The last seen of him he was running up the steps of his office. As they soared away and looked back they could see men, the employees, scurrying about in frantic haste to their respective posts and stations. What was it all about? Little did the two aviators know. Little did they dream that it was the deciding stroke.

CHAPTER IX.

THE MOST TERRIFIC MOMENT IN HISTORY

Still the great ball of Opalescence brooding over the Sargasso. Europe now was frozen, and though it was midsummer had gone into winter quarters. The Straits of Dover were no more. The waters had receded and one could walk, if careful, dry-shod from the shores of France to the chalk cliffs of England. The Straits of Gibraltar had dried up. The Mediterranean completely land-locked, was cut off forever from the tides of the mother ocean.

The whole world going dry; not in ethics, but in reality. The great Vampire, luminous, beautiful beyond all ken and thinking, drinking up our life-blood. The Atlantic a vast whirlpool.

A strange frenzy had fallen over mankind: men fought in the streets and died in madness. It was fear of the Great Unknown, and hysteria. At such a moment the veil of civilization was torn to tatters. Man was reverting to the primeval.

Then came the word from Charley Huyck; flashing and repeating to every clime and nation. In its assurance it was almost as miraculous as the Vampire itself. For man had surrendered.

TO THE PEOPLE OF THE WORLD:

The strange and terrible Opalescence which, for the past seventy hours, has been playing havoc with the world, is not miracle, nor of the supernatural, but a mere manifestation and result of the application of celestial kinetics. Such a thing always was and always will be possible where there is intelligence to control and harness the forces that lie about us. Space is not space exactly, but an infinite cistern of unknown laws and forces. We may control certain laws on earth, but until we reach out farther we are but playthings.

Man is the intelligence of the earth. The time will come when he must be the intelligence of a great deal of space as well. At the present time you are merely fortunate and a victim of a kind fate. That I am the instrument of the earth's salvation is merely chance. The real man is Dr. Robold. When he picked me up on the streets I had no idea that the sequence of time would drift to this moment. He took me into his work and taught me.

Because he was sensitive and was laughed at, we worked in secret. And since his death, and out of respect to his memory, I have continued in the same manner. But I have written down everything, all the laws, computations, formulas—everything; and I am now willing it to mankind.

Robolt had a theory on kinetics. It was strange at first and a thing to laugh at; but he reduced it to laws as potent and as inexorable as the laws of gravitation.

The luminous Opalescence that has almost destroyed us is but one of its minor manifestations. It is a message of sinister intelligence; for back of it all is an Intelligence. Yet it is not all sinister. It is self-preservation. The time is coming when eons of ages from now our own man will be forced to employ just such a weapon for his own preservation. Either that or we shall die of thirst and agony.

Let me ask you to remember now, that whatever you have suffered, you have saved a world. I shall now save you and the earth.

In the vaults you will find everything. All the knowledge and discoveries of the great Dr. Robold, plus a few minor findings by myself.

And now I bid you farewell. You shall soon be free. CHARLEY HUYCK.

A strange message. Spoken over the wireless and flashed to every clime, it roused and revived the hope of mankind. Who was this Charley Huyck? Uncounted millions of men had never heard his name; there were but few, very few who had.

A message out of nowhere and of very dubious and doubtful explanation. Celestial kinetics! Undoubtedly. But the words explained nothing. However, man was ready to accept anything, so long as it saved him.

For a more lucid explanation we must go back to the Arizona observatory and Professor Ed. Williams. And a strange one it was truly; a certain proof that consciousness is more potent, far more so than mere material; also that many laws of our astronomers are very apt to be overturned in spite of their mathematics.

Charley Huyck was right. You cannot measure intelligence with a yard-stick. Mathematics do not lie; but when applied to consciousness they are very likely to kick backward. That is precisely what had happened.

The suddenness of Huyck's departure had puzzled Professor Williams; that, and the note which he found upon the table. It was not like Charley to go off so in the stress of a moment. He had not even taken the time to get his hat and coat. Surely something was amiss.

He read the note carefully, and with a deal of wonder.

"Look these up. Keep by the lens. If the world goes up you will know I have not reached the mountain."

What did he mean? Besides, there was no data for him to work on. He did not know that an errant breeze had plumped the information behind the bookcase. Nevertheless he went into the observatory, and for the balance of the night stuck by the lens.

Now there are uncounted millions of stars in the sky. Williams had nothing to go by. A needle in the hay-stack were an easy task compared with the one that he was allotted. The flaming mystery,

whatever it was that Huyck had seen, was not caught by the professor. Still, he wondered. "If the world goes up you will know I have not reached the mountain." What was the meaning?

But he was not worried. The professor loved Huyck as a visionary and smiled not a little at his delightful fancies. Doubtless this was one of them. It was not until the news came flashing out of Oakland that he began to take it seriously. Then followed the disappearance of Mount Heckla. "If the world goes up"—it began to look as if the words had meaning.

There was a frantic professor during the next few days. When he was not with the lens he was flashing out messages to the world for Charley Huyck. He did not know that Huyck was lying unconscious and almost dead upon the desert. That the world was coming to catastrophe he knew full well; but where was the man to save it? And most of all, what had his friend meant by the words, "look these up"?

Surely there must be some further information. Through the long, long hours he stayed with the lens and waited. And he found nothing.

It was three days. Who will ever forget them? Surely not Professor Williams. He was sweating blood. The whole world was going to pieces without the trace of an explanation. All the mathematics, all the accumulations of the ages had availed for nothing. Charley Huyck held the secret. It was in the stars, and not an astronomer could find it.

But with the seventeenth hour came the turn of fortune. The professor was passing through the office. The door was open, and the same fitful wind which had played the original prank was now just as fitfully performing restitution. Williams noticed a piece of paper protruding from the back of the bookcase and fluttering in the breeze. He picked it up. The first words that he saw were in the handwriting of Charley Huyck. He read:

"In the last extremity—in the last phase when there is no longer any water on the earth; when even the oxygen of the atmospheric envelope has been reduced to a minimum—man, or whatever form of intelligence is then upon the earth, must go back to the laws which governed his forebears. Necessity must ever be the law of evolution. There will be no water upon the earth, but there will be an unlimited quantity elsewhere.

"By that time, for instance, the great planet, Jupiter, will be in just a convenient state for exploitation. Gaseous now, it will be, by that time, in just about the stage when the steam and water are condensing into ocean. Eons of millions of years away in the days of dire necessity. By that time the intelligence and consciousness of the earth will have grown equal to the task.

"It is a thing to laugh at (perhaps) just at present. But when we consider the ratio of man's advance in the last hundred years, what will it be in a billion? Not all the laws of the universe have been discovered, by any means. At present we know nothing. Who can tell?

"Aye, who can tell? Perhaps we ourselves have in store the fate we would mete out to another. We have a very dangerous neighbor close beside us. Mars is in dire straits for water. And we know there is life on Mars and intelligence! The very fact on its face proclaims it. The oceans have dried up; the only way they have of holding life is by bringing their water from the polar snow-caps. Their canals pronounce an advanced state of cooperative intelligence; there is life upon Mars and in an advanced stage of evolution.

"But how far advanced? It is a small planet, and consequently eons of ages in advance of the earth's evolution. In the nature of things Mars cooled off quickly, and life was possible there while the earth was yet a gaseous mass. She has gone to her maturity and into her retrogression; she is approaching her end. She has had less time to produce intelligence than intelligence will have—in the end—upon the earth.

"How far has this intelligence progressed? That is the question. Nature is a slow worker. It took eons of ages to put life upon the earth; it took eons of more ages to make this life conscious. How far will it go? How far has it gone on Mars?"

That was as far the the comments went. The professor dropped his eyes to the rest of the paper. It was a map of the face of Mars, and across its center was a black cross scratched by the dull point of a soft pencil.

He knew the face of Mars. It was the Ascræus Lucus. The oasis at the juncture of a series of canals running much like the spokes of a wheel. The great Uranian and Alander Canals coming in at about right angles.

In two jumps the professor was in the observatory with the great lens swung to focus. It was the great moment out of his lifetime, and the strangest and most eager moment, perhaps, ever lived by any astronomer. His fingers fairly twitched with tension. There before his view was the full face of our Martian neighbor!

But was it? He gasped out a breath of startled exclamation. Was it Mars that he gazed at; the whole face, the whole thing had been changed before him.

Mars has ever been red. Viewed through the telescope it has had the most beautiful tinge imaginable, red ochre, the weird tinge of the desert in sunset. The color of enchantment and of hell!

For it is so. We know that for ages and ages the planet has been burning up; that life was possible only in the dry sea-bottoms and under irrigation. The rest, where the continents once were, was blazing desert. The redness, the beauty, the enchantment that we so admired was burning hell.

All this had changed.

Instead of this was a beautiful shade of iridescent green. The red was gone forever. The great planet standing in the heavens had grown into infinite glory. Like the great Dog Star transplanted.

The professor sought out the Ascræus Lucus. It was hard to find. The whole face had been transfigured; where had been canals was now the beautiful sheen of green and verdure. He realized what he was beholding and what he had never dreamed of seeing; the seas of Mars filled up.

With the stolen oceans our grim neighbor had come back to youth. But how had it been done. It was horror for our world. The great luminescent ball of Opalescence! Europe frozen and New York a mass of ice. It was the earth's destruction. How

long could the thing keep up; and whence did it come? What was it?

He sought for the Ascræus Lucus. And he beheld a strange sight. At the very spot where should have been the juncture of the canals he caught what at first looked like a pin-point flame, a strange twinkling light with flitting glow of Opalescence. He watched it, and he wondered. It seemed to the professor to grow; and he noticed that the green about it was of different color. It was winking, like a great force, and much as if alive; baneful.

It was what Charley Huyck had seen. The professor thought of Charley. He had hurried to the mountain. What could Huyck, a mere man, do against a thing like this? There was naught to do but sit and watch it drink of our life-blood. And then—

It was the message, the strange assurance that Huyck was flashing over the world. There was no lack of confidence in the words he was speaking. "Celestial Kinetics," so that was the answer! Certainly it must be so with the truth before him. Williams was a doubter no longer. And Charley Huyck could save them. The man he had humored. Eagerly he waited and stuck by the lens. The whole world waited.

It was perhaps the most terrific moment since creation. To describe it would be like describing doomsday. We all of us went through it, and we all of us thought the end had come; that the earth was torn to atoms and to chaos.

The State of Colorado was lurid with a red light of terror; for a thousand miles the flame shot above the earth and into space. If ever spirit went out in glory that spirit was Charley Huyck! He had come to the moment and to Archimedes. The whole world rocked to the recoil. Compared to it the mightiest earthquake was but a tender shiver. The consciousness of the earth had spoken!

The professor was knocked upon the floor. He knew not what had happened. Out of the windows and to the north the flame of Colorado, like the whole world going up. It was the last moment. But he was a scientist to the end. He had sprained his ankle and his face was bleeding; but for all that he struggled, fought his way to the telescope. And he saw:

The great planet with its sinister, baleful, wicked light in the center, and another light vastly larger covering up half of Mars. What was it? It was moving. The truth set him almost to shouting.

It was the answer of Charley Huyck and of the world. The light grew smaller, smaller, and almost to a pin-point on its way to Mars.

The real climax was in silence. And of all the world only Professor Williams beheld it. The two lights coalesced and spread out; what it was on Mars, of course, we do not know.

But in a few moments all was gone. Only the green of the Martian Sea winked in the sunlight. The luminous opal was gone from the Sargasso. The ocean lay in peace.

It was a terrible three days. Had it not been for the work of Robold and Huyck life would have been destroyed. The pity of it that all of their discoveries have gone with them. Not even Charley realized how terrific the force he was about to loosen.

He had carefully locked everything in vaults for a safe delivery to man. He had expected death, but not the cataclysm. The whole of Mount Robold was shorn away; in its place we have a lake fifty miles in diameter.

So much for celestial kinetics.

And we look to a green and beautiful Mars. We hold no enmity. It was but the law of self-preservation. Let us hope they have enough water; and that their seas will hold. We don't blame them, and we don't blame ourselves, either for that matter. We need what we have, and we hope to keep it.

(THE END.)

The Thing from "Outside"

By GEORGE ALLEN ENGLAND

(Concluded)

That Marr was dead and the girl alive—that much, at all events, was solid. He could hold to that; he could climb back, with that, to the real world again.

Jandron climbed back, came back. Time healed him, as it healed the girl. After a long, long while, they had speech together. Cautiously he sounded her wells of memory. He saw that she recalled nothing. So he told her white lies about capsized canoes and the sad death—in realistically-described rapids—of all the party except herself and him.

Vivian believed. Fate, Jandron knew, was being very kind to both of them.

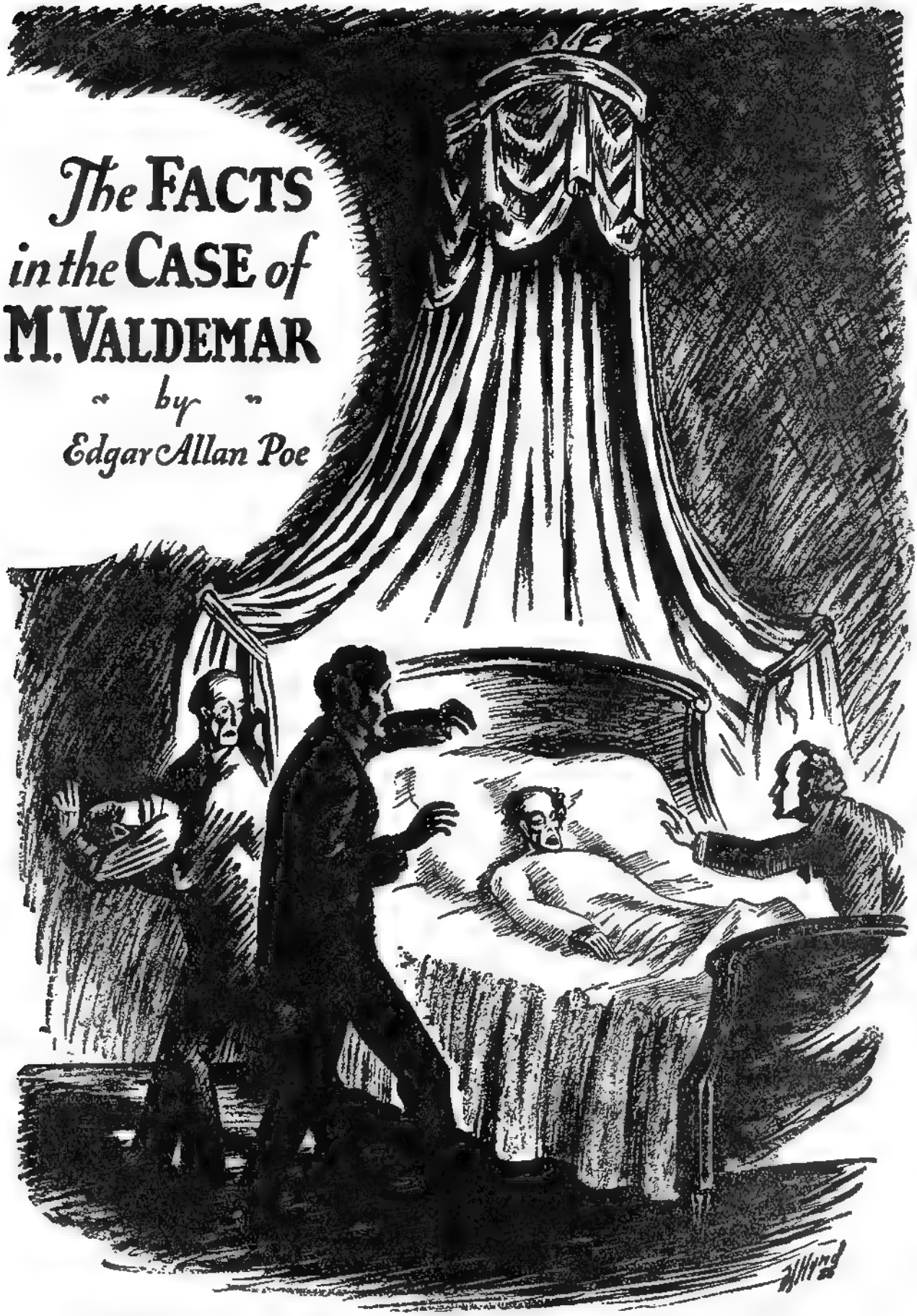
But Vivian could never understand in the least why her husband, not very long after marriage, asked her not to wear a wedding-ring or any ring whatever.

"Men are so queer!" covers a multitude of psychic agonies.

Life, for Jandron—life, softened by Vivian—knit itself up into some reasonable semblance of a normal pattern. But when, at lengthening intervals, memories even now awake—memories crawling amid the slime of cosmic mysteries that it is madness to approach—or when at certain times Jandron sees a ring of any sort, his heart chills with a cold that reeks of the horrors of Infinity.

And from shadows past the boundaries of our universe seem to beckon Things that, God grant, can never till the end of time be known on earth.

(THE END)



"For God's sake!—quick!—put me to sleep—or, quick!—waken me!—quick!—I say to you that I am dead!"

OF COURSE I shall not pretend to consider it any matter for wonder, that the extraordinary case of M. Valdemar has excited discussion. It would have been a miracle had it not—especially under the circumstances. Through the desire of all parties concerned, to keep the affair from the public, at least for the present, or until we had farther opportunities for investigation—through our endeavors to effect this—a garbled or exaggerated account made its way into society, and became the source of many unpleasant misrepresentations; and, very naturally, of a great deal of disbelief.

It is now rendered necessary that I give the *facts*—as far as I comprehend them myself. They are, succinctly, these:

My attention, for the last three years, had been repeatedly drawn to the subject of Mesmerism; and about nine months ago, it occurred to me, quite suddenly, that in the series of experiments made hitherto, there had been a very remarkable and most unaccountable omission: no person had as yet been mesmerized *in articulo mortis*. It remained to be seen, first, whether, in such condition, there existed in the patient any susceptibility to the magnetic influence; secondly, whether, if any existed, it was impaired or increased by the condition; thirdly, to what extent, or for how long a period, the encroachments of Death might be arrested by the process. There were other points to be ascertained, but these most excited my curiosity—the last in especial, from the immensely important character of its consequences.

In looking around me for some subject by whose means I might test these particulars, I was brought to think of my friend, M. Ernest Valdemar, the well-known compiler of the "Bibliotheca Forensica," and author (under the *nom de plume* of Issachar Marz) of the Polish versions of "Wallenstein" and "Gargantua." M. Valdemar, who has resided principally at Harlem, N. Y., since the year 1839, is (or was) particularly noticeable for the extreme spareness of his person—his lower limbs much resembling those of John Randolph; and, also, for the whiteness of his whiskers, in violent contrast to the blackness of his hair—the latter, in consequence, being very generally mistaken for a wig. His temperament was markedly nervous, and rendered him a good subject for mesmeric experiment. On two or three occasions I had put him to sleep with little difficulty, but was disappointed in other results which his peculiar constitution had naturally led me to anticipate. His will was at no period positively, or thoroughly, under my control, and in regard to *clairvoyance*, I could accomplish with him nothing to be relied upon. I always attributed my failure at these points to the disordered state of his health. For some months previous to my becoming acquainted with him, his physicians had declared him in a confirmed phthisis. It was his custom, indeed, to speak calmly of his approaching dissolution, as of a matter neither to be avoided nor regretted.

MESMERISM in this gruesome story by Edgar Allan Poe has again been used as a vehicle for telling us his views about the higher philosophy and the future world. Mesmerism in another of Poe's stories, "Mesmeric Revelations" is made an agreeable setting for some of his philosophy, which he is willing to tell about without forcing it upon us in the too prevalent modern system. But here we find the same author in a somewhat different character. It is again mesmerism which he employs, it is again a bit of philosophy to be told us, but the story leads up gradually and most skillfully to a denouement, the most horrifying and terrible in all modern story telling. This very short story in its horror is unique.

When the ideas to which I have alluded first occurred to me, it was of course very natural that I should think of M. Valdemar. I knew the steady philosophy of the man too well to apprehend any scruples from *him;* and he had no relatives in America who would be likely to interfere. I spoke to him frankly upon the subject; and to my surprise, his interest seemed vividly excited. I say to my surprise; for, although he had always yielded his person freely to my experiments, he had never before given me any tokens of sympathy with what I did. His disease was of that character which would admit of exact calculation in respect to the epoch of its termination in death; and it was finally arranged between us that he would send for me about twenty-four hours before the period announced by his physicians as that of his decease.

It is now rather more than seven months since I received, from Valdemar himself, the subjoined note:

"My dear P——,

"You may as well come *now*. D—— and F—— are agreed that I cannot hold out beyond to-morrow midnight; and I think they have hit the time very nearly. "Valdemar."

I received this note within half an hour after it was written, and in fifteen minutes more I was in the dying man's chamber. I had not seen him for ten days, and was appalled by the fearful alteration which the brief interval had wrought in him. His face wore a leaden hue; the eyes were utterly lustreless; and the emaciation was so extreme, that the skin had been broken through by the cheek-bones. His expectoration was excessive. The pulse was barely perceptible. He retained, nevertheless, in a very remarkable manner, both his mental power and a certain degree of physical strength. He spoke with distinctness, took some palliative medicines without aid—and, when I entered the room, was occupied in penciling memoranda in a pocketbook. He was propped up in the bed by pillows. Doctors D—— and F—— were in attendance.

After pressing Valdemar's hand, I took these gentlemen aside, and obtained from them a minute account of the patient's condition. The left lung had been for eighteen months in a semi osseous or cartilaginous state, and was, of course, entirely useless for all purposes of vitality. The right, in its upper portion, was also partially, if not thoroughly, ossified, while the lower region was merely a mass of purulent tubercles, running one into another. Several extensive perforations existed; and, at one point, permanent adhesion to the ribs had taken place. These appearances in the right lobe were of comparatively recent date. The ossification had proceeded with very unusual rapidity; no sign of it had been discovered a month before, and the adhesion had only been observed during the three previous days. Independently of the phthisis, the patient was suspected of aneurism of the aorta;

but on this point the osseous symptoms rendered an exact diagnosis impossible. It was the opinion of both physicians that M. Valdemar would die about midnight on the morrow (Sunday). It was then seven o'clock on Saturday evening.

On quitting the invalid's bedside to hold conversation with myself, Doctors D—— and F—— had bidden him a final farewell. It had not been their intention to return; but at my request, they agreed to look in upon the patient about ten the next night.

When they had gone, I spoke freely with M. Valdemar on the subject of his approaching dissolution, as well as, more particularly, of the experiment proposed. He still professed himself quite willing and even anxious to have it made, and urged me to commence it at once. A male and a female nurse were in attendance; but I did not feel myself altogether at liberty to engage in a task of this character with no more reliable witnesses than these people, in case of sudden accident, might prove. I therefore postponed operations until about eight the next night, when the arrival of a medical student with whom I had some acquaintance (Mr. Theodore L——l), relieved me from further embarrassment. It had been my design, originally, to wait for the physicians; but I was induced to proceed, first, by the urgent entreaties of M. Valdemar, and secondly, by my conviction that I had not a moment to lose, as he was evidently sinking fast.

Mr. L——l was so kind as to accede to my desire that he would take notes of all that occurred; and it is from his memoranda that what I now have to relate is, for the most part, either condensed or copied *verbatim*.

It wanted about five minutes of eight when, taking the patient's hand, I begged him to state, as distinctly as he could, to Mr. L——l, whether he (M. Valdemar) was entirely willing that I should make the experiment of mesmerizing him in his then condition.

He replied feebly, yet quite audibly, "Yes, I wish to be mesmerized"—adding immediately afterward, "I fear you have deferred it too long."

While he spoke thus, I commenced the passes which I had already found most effectual in subduing him. He was evidently influenced with the first lateral stroke of my hand across his forehead; but although I exerted all my powers, no further perceptible effect was induced until some minutes after ten o'clock when Doctors D—— and F—— called, according to appointment. I explained to them, in a few words, what I designed, and as they opposed no objection, saying that the patient was already in the death agony, I proceeded without hesitation—exchanging, however, the lateral passes for downward ones, and directing my gaze entirely into the right eye of the sufferer.

By this time his pulse was imperceptible and his breathing was stertorous, and at intervals of half a minute.

This condition was nearly unaltered for a quarter of an hour. At the expiration of this period, however, a natural although a very deep sigh escaped the bosom of the dying man, and the stertorous breathing ceased—that is to say, its stertorousness was no longer apparent; the intervals were undiminished. The patient's extremities were of an icy coldness.

At five minutes before eleven, I perceived unequivocal signs of the mesmeric influence. The glassy roll of the eye was changed for that expression of uneasy *inward* examination which is never seen except in cases of sleep-waking, and which it is quite impossible to mistake. With a few rapid lateral passes I made the lids quiver, as in incipient sleep, and with a few more I closed them altogether. I was not satisfied, however, with this, but continued the manipulations vigorously, and with the fullest exertion of the will, until I had completely stiffened the limbs of the slumberer, after placing them in a seemingly easy position. The legs were at full length; the arms were nearly so, and reposed on the bed at a moderate distance from the loins. The head was very slightly elevated.

When I had accomplished this, it was fully midnight, and I requested the gentlemen present to examine M. Valdemar's condition. After a few experiments, they admitted him to be in an unusually perfect state of mesmeric trance. The curiosity of both the physicians was greatly excited. Dr. D—— resolved at once to remain with the patient all night, while Dr. F—— took leave with a promise to return at daybreak. Mr. L——l and the nurses remained.

We left M. Valdemar entirely undisturbed until about three o'clock in the morning, when I approached him and found him in precisely the same condition as when Dr. F—— went away—that is to say, he lay in the same position; the pulse was imperceptible; the breathing was gentle (scarcely noticeable, unless through the application of a mirror to the lips); the eyes were closed naturally; and the limbs were as rigid and as cold as marble. Still, the general appearance was certainly not that of death.

As I approached M. Valdemar I made a kind of half effort to influence his right arm into pursuit of my own, as I passed the latter gently to and fro above his person. In such experiments with this patient, I had never perfectly succeeded before, and assuredly I had little thought of succeeding now; but to my astonishmnt, his arm very readily, although feebly, followed every direction I assigned it with mine. I determined to hazard a few words of conversation.

"M. Valdemar," I said, "are you asleep?" He made no answer, but I perceived a tremor about the lips, and was thus induced to repeat the question, again and again. At its third repetition, his whole frame was agitated by a very slight shivering; the eyelids unclosed themselves so far as to display a white line of a ball; the lips moved sluggishly, and from between them, in a barely audible whisper, issued the words:

"Yes;—asleep now. Do not wake me!—let me die so!"

I here felt the limbs and found them as rigid as ever. The right arm, as before, obeyed the direction of my hand. I questioned the sleep-waker again:

"Do you still feel pain in the breast, M. Valdemar?"

The answer now was immediate, but even less audible than before:

"No pain—I am dying."

I did not think it advisable to disturb him further just then, and nothing more was said or done until

the arrival of Dr. F——, who came a little before sunrise, and expressed unbounded astonishment at finding the patient still alive. After feeling the pulse and applying a mirror to the lips, he requested me to speak to the sleep-waker again. I did so, saying:

"M. Valdemar, do you still sleep?"

As before, some minutes elapsed ere a reply was made; and during the interval the dying man seemed to be collecting his energies to speak. At my fourth repetition of the question, he said very faintly, almost inaudibly:

"Yes; still asleep—dying."

It was now the opinion, or rather the wish, of the physicians, that M. Valdemar should be suffered to remain undisturbed in his present apparently tranquil condition, until death should supervene—and this, it was generally agreed, must now take place within a few minutes. I concluded, however, to speak to him once more, and merely repeated my previous question.

While I spoke, there came a marked change over the countenance of the sleep-waker. The eyes rolled themselves slowly open, the pupils disappearing upwardly; the skin generally assumed a cadaverous hue, resembling not so much parchment as white paper; and the circular hectic spots which, hitherto, had been strongly defined in the centre of each cheek, *went out* at once. I use this expression, because the suddenness of their departure put me in mind of nothing so much as the extinguishment of a candle by a puff of the breath. The upper lip, at the same time, writhed itself away from the teeth, which it had previously covered completely; while the lower jaw fell with an audible jerk, leaving the mouth widely extended, and disclosing in full view the swollen and blackened tongue. I presume that no member of the party then present had been unaccustomed to death-bed horrors; but so hideous beyond conception was the appearance of M. Valdemar at this moment, that there was a general shrinking back from the region of the bed.

I now feel that I have reached a point of this narrative at which every reader will be startled into positive disbelief. It is my business, however, simply to proceed.

There was no longer the faintest sign of vitality in M. Valdemar; and concluding him to be dead, we were consigning him to the charge of the nurses, when a strong vibratory motion was observable in the tongue. This continued for perhaps a minute. At the expiration of this period, there issued from the distended and motionless jaws a voice—such as it would be madness in me to attempt describing. There are, indeed, two or three epithets which might be considered as applicable to it in part; I might say, for example, that the sound was harsh, and broken, and hollow; but the hideous whole is indescribable, for the simple reason that no similar sounds have ever jarred upon the ear of humanity. There were two particulars, nevertheless, which I thought then, and still think, might fairly be stated as characteristic of the intonation—as well adapted to convey some idea of its unearthly peculiarity. In the first place, the voice seemed to reach our ears—at least mine—from a vast distance, or from some deep cavern within the earth. In the second place it impressed me (I fear, indeed, that it will be impossible to make myself comprehended) as gelatinous or glutinous matters impress the sense of touch.

I have spoke both of "sound" and of "voice." I mean to say that the sound was one of distinct—of even wonderfully, thrillingly distinct—syllabification. M. Valdemar *spoke*—obviously in reply to the question I had propounded to him a few minutes before. I had asked him, it will be remembered, if he still slept. He now said:

"Yes;—no;—I *have been* sleeping—and now—now—I *am dead!*"

No person present even affected to deny, or attempted to repress, the unutterable, shuddering horror which these few words, thus uttered, were so well calculated to convey. Mr. L——l (the student) swooned. The nurses immediately left the chamber, and could not be induced to return. My own impressions I would not pretend to render intelligible to the reader. For nearly an hour we busied ourselves, silently—without the utterance of a word—in endeavors to revive Mr. L——l. When he came to himself we addressed ourselves again to an investigation of M. Valdemar's condition.

It remained in all respects as I have at last described it, with the exception that the mirror no longer afforded evidence of respiration. An attempt to draw blood from the arm failed. I should mention, too, that this limb was no farther subject to my will. I endeavored in vain to make it follow the direction of my hand. The only real indication, indeed, of the mesmeric influence, was now found in the vibratory movement of the tongue, whenever I addressed M. Valdemar a question. He seemed to be making an effort to reply, but had no longer sufficient volition. To queries put to him by any other person than myself he seemed utterly insensible—although I endeavored to place each member of the company in mesmeric *rapport* with him. I believe that I have now related all that is necessary to an understanding of the sleep-waker's state at this epoch. Other nurses were procured; and at ten o'clock I left the house in company with the two physicians and Mr. L——l.

In the afternoon we all called again to see the patient. His condition remained precisely the same. We had now some discussion as to the propriety and feasibility of awakening him; but we had little difficulty in agreeing that no good purpose would be served by so doing. It was evident that, so far, death (or what is usually termed death) had been arrested by the mesmeric process. It seemed clear to us all that to awaken M. Valdemar would be merely to insure his instant, or at least his speedy dissolution.

From this period until the close of last week—*an interval of nearly seven months*—we continued to make daily calls at M. Valdemar's house accompanied, now and then, by medical and other friends. All this time the sleep-waker remained *exactly* as I have at last described him. The nurses' attentions were continual.

It was on Friday last that we finally resolved to make the experiment of awakening, or attempting to awaken him; and it is the (perhaps) unfortunate result of this latter experiment which has given rise to so much discussion in private circles—to so much of what I cannot help thinking unwarranted popular feeling.

For the purpose of relieving M. Valdemar from

the mesmeric trance, I made use of the customary passes. These, for a time, were unsuccessful. The first indication of revival was afforded by a partial descent of the iris. It was observed, as especially remarkable, that this lowering of the pupil was accompanied by the profuse out-flowing of a yellowish ichor (from beneath the lids) of a pungent and highly offensive odor.

It was now suggested that I should attempt to influence the patient's arm, as heretofore. I made the attempt and failed. Dr. F—— then intimated a desire to have me put a question. I did so as follows:

"M. Valdemar, can you explain to us what are your feelings or wishes now?"

There was an instant return of the hectic circles on the cheeks; the tongue quivered, or rather rolled violently in the mouth (although the jaws and lips remained rigid as before); and at length the same hideous voice which I have already described, broke forth:

"For God's sake!—quick!—quick!—put me to sleep—or, quick!—waken me!—quick!—*I say to you that I am dead!*"

I was thoroughly unnerved, and for an instant remained undecided what to do. At first I made an endeavor to recompose the patient; but, failing in this through total abeyance of the will, I retraced my steps and as earnestly struggled to awaken him. In this attempt I soon saw that I should be successful—or at least I soon fancied that my success would be complete—and I am sure that all in the room were prepared to see the patient awaken.

For what really occurred, however, it is quite impossible that any human being could have been prepared.

As I rapidly made the mesmeric passes, amid ejaculations of "dead! dead!" absolutely *bursting* from the tongue and not from the lips of the sufferer, his whole frame at once—within the space of a single minute, or even less, shrunk—crumbled—absolutely *rotted* away beneath my hands. Upon the bed, before that whole company, there lay a nearly liquid mass of loathsome—of detestable putrescence.

THE END

The New Accelerator

By H. G. WELLS

(Concluded)

preparation is a manageable convenience, but its practicability is certainly demonstrated beyond all cavil.

Since that adventure he has been steadily bringing its use under control, and I have several times and without the slightest bad result, taken measured doses under his direction; though I must confess I have not yet ventured abroad again while under its influence. I may mention, for example, that this story has been written at one sitting and without interruption, except for the nibbling of some chocolate, by its means. I began at 6:25, and my watch is now very nearly at the minute past the half-hour. The convenience of securing a long, uninterrupted spell of work in the midst of a day full of engagements cannot be exaggerated. Gibberne is now working at the quantitative handling of his preparation, with especial reference to its distinctive effects upon different types of constitution. He then hopes to find a Retarder with which to dilute its present rather excessive potency. The Retarder will, of course, have an effect the reverse of the Accelerator's; used alone it should enable the patient to spread a few seconds over many hours of ordinary time, and so to maintain an apathetic inaction, a glacier-like absence of alacrity, amidst the most animated or irritating surroundings. The two things together must necessarily work an entire revolution in civilized existence. It is the beginning of our escape from that Time Garment of which Carlyle speaks. While this Accelerator will enable us to concentrate ourselves with tremendous impact upon any moment or occasion that demands our utmost sense and vigor, the Retarder will enable us to pass in passive tranquility through infinite hardship and tedium. Perhaps I am a little optimistic about the Retarder, which has indeed still to be discovered, but about the Accelerator there is no possible sort of doubt whatever. Its appearance upon the market in a convenient, controllable, and assimilable form is a matter of the next few months. It will be obtainable of all chemists and druggists, in small green bottles, at a high but, considering its extraordinary qualities, by no means excessive price. Gibberne's Nervous Accelerator it will be called, and he hopes to be able to supply it in three strengths; one in 200, one in 900, and one in 2,000, distinguished by yellow, pink, and white labels respectively.

No doubt its use renders a great number of very extraordinary things possible; for, of course, the most remarkable and, possibly, even criminal proceedings may be effected with impunity by thus dodging, as it were, into the interstices of time. Like all potent preparations it will be liable to abuse. We have, however, discussed this aspect of the question very thoroughly, and we have decided that this is purely a matter of medical jurisprudence and altogether outside our province. We shall manufacture and sell the Accelerator, and, as for the consequences—we shall see.

(THE END)

DR. HACKENSAW'S SECRETS

THOSE who read the famous Dr. Hackensaw's Secrets in SCIENCE AND INVENTION magazine, may be interested to know that we have on hand a great many of Dr. Hackensaw's manuscripts which have never been published hitherto.

Before printing these in AMAZING STORIES, however, we would like to have an expression from our readers as to just how they feel about these stories, and whether they would like to have more of them.

Won't you please write the editor a few lines, stating your feelings in this matter?—EDITOR.

Villa Tasso

NORTHWEST FLORIDA

The Most Beautiful Homeland in America

BUY An Ideal Homesite

In Florida's most Beautiful Section

VILLA TASSO

On Bluffs Overlooking Chotawhatchie Bay

Northwest Florida is just being discovered. In this glorious spot, Florida's most beautiful section—50 miles East of Pensecola, on bluffs overlooking the beautiful Choctawhatchie Bay—lies Villa Tasso with its delightful Homesites.

A newly discovered Florida dreamland abounding in opportunities—Healthful, Invigorating climate with pure soft water all year round. In the shadow of Magnolia, Pine, Oak, Holly and Palmetto trees, and adjoining national forest, and looping the old Spanish trail giving all the delights of safe bathing beach, hunting, fishing, boating, riding, golf, etc. Freight and Passenger Steamer Service. Beautiful Appalachian scenic highway leads directly to Pensecola, one of Florida's most magnificent cities.

Lots average 50 x 150, average elevation 16 feet, guaranteed high, desirable for building. Now offered for three hundred to two thousand dollars with perfect title. Prices have quadrupled in 3 years and values are rapidly advancing. Reasonable terms.

These prices are a fraction of the cost of other Florida property. Buy now for a homesite or for investment. Write immediately for information to T. V. Orr, Villa Tasso Lodge, Temporary Post Office, Bolton, Florida.

An Ideal for You Undiscovered Florida

FREE RAILROAD FARE

Learn Electricity In the Great Shops of COYNE

In 12 Weeks — Earn $60 to $200 a Week

IMPORTANT NOTE: COYNE *does not teach by correspondence but by practical, personal training in the great* COYNE *Shops*

MAKE this the most profitable and enjoyable season of your life. Come to Chicago, on beautiful Lake Michigan, the greatest Spring and Summer Resort City in the country and the Greatest Electrical Center in the World. Twelve weeks from now you can be an *Electrical Expert* no matter what you are doing today. I stake my reputation and that of the great Million Dollar Institution I head, with its 28 years of honest successful methods. I have started thousands of men, young and old, on the road to real success and happiness. I can do the same for you. I'll pay your Railroad Fare from any place in the United States. Clip Coupon NOW for Full Particulars, and for my Big, New, Free Book. Don't miss this opportunity.

Learn in Chicago, the Electrical Center of the World Master Electricity right in the Electrical Center of the World. You see everything Electrical here. Along with my Shop Training you visit the big organizations and power plants—you see the greatest electrical plants in the world.

Great Summer Resort City

Chicago, on beautiful Lake Michigan, is the Nation's Spring and Summer Playground. Free Bathing Beaches. Beautiful Parks, Excursion Boats and the great Municipal Pier, Zoos, Ball Parks. The daylight saving plan makes it possible for you to enjoy all this, and still have plenty of time for your electrical education.

Complete Electrical Training in 12 Weeks

Get my Free Book. See how I train you for the Big Jobs in Electricity by actual work on the largest outlay of Electrical Machinery in any school in the country. Everything from Doorbells to Power Plants. Everything to make you an Electrical Expert, ready to step right into a position paying from $60 to $200 a week.

You Don't Need Education or Experience

It makes no difference how little Education, Mathematics or Experience you have had, or what kind of work you are doing now, I'll make you an Electrical Expert through the Coyne LEARN-BY-DOING METHOD! I've done it for thousands. I will do it for you. Send for my Big Free Book. See how great is the demand for Coyne Trained Electrical Experts.

Earn While You Learn

My Employment Department helps you get a job to earn a good part of your expenses and assists you to a good job on graduation. This great organization will always be behind you.

Hear Coyne on the Air—WGES—250 Meters

Hear the Coyne Radio Station on the air each night. Always an interesting program. Listen to the famous COYNE student orchestra and other talented students.

SPECIAL OFFER

I Pay Your Railroad Fare

Radio and Auto Courses Included FREE!

I'll pay your Railroad fare to Chicago from any place in the U. S. if you act quick. And right now I am including absolutely free of extra charge my complete Radio Course and Auto, Truck and Tractor Electricity.

Clip Coupon Now!

Send Coupon NOW for my Big New FREE Electrical Book

Right now I am making the greatest offer ever made by a Practical Training Institution. Even if you are not planning on coming right now don't delay a single minute. Send coupon right away for full details. No obligation at all. Remember Coyne is a School with an established reputation. Endorsed by Electrical Industry. Backed by over a *Quarter of a Century* of Success. You owe it to yourself to investigate. Act *NOW!*

H. C. LEWIS *President*

COYNE ELECTRICAL SCHOOL

FOUNDED 1899

Dept. 1304 1300-10 W. Harrison St., CHICAGO, ILL.

Not a Correspondence Course; All Practical, Personal Training!

SUCCESS COUPON

H. C. LEWIS, President,
COYNE ELECTRICAL SCHOOL
1300-10 W. Harrison Street
Dept. 1304 Chicago, Illinois

Dear H.C.—I sure want one of those big handsome 12x15 books, with 151 actual photographs printed in two colors. Send it quick. I'll be looking for it on the next mail. I want the facts without placing me under any obligation. Be sure and tell me all about the *Free Railroad Fare* and *Two Free Courses.*

Name.....

Address .....